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ABSTRACT

The films and filmstrips listed in this catalog are Federal records, since they document the functions and operations of Federal agencies. This is the first edition of the sales catalog for the National Audiovisual Center. It contains films categorized under 18 broad headings: agriculture, automotive, aviation, business, education and culture, electricity, electronics, health and medical, human relations, machining, marine, national security, physical fitness, safety, science, social science, technical, and woodworking. Each of these broad subject areas is further broken down into more narrow categories. The following information is provided for each film: title, length, type (sound or silent, color or black and white), order number, price and a brief annotation. There is a title index to the entries. (The 1971 supplement to this first edition is LI 003876.) (SJ)

RICHARD NIXON
President of the United States

ROBERT L. KUNZIG
Administrator of General Services

JAMES B. RHOADS
Archivist of the United States

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U.S. Government Films

A Catalog of Motion Pictures and Filmstrips for Sale by the National Audiovisual Center

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FOREWORD

Audiovisual materials, like Government publications, that are made by or for agencies of the Federal Government are of value and interest to the public. In the past, however, the public has found it difficult to know what is available. There has been no central source of these materials or information about them.

The National Audiovisual Center was established in July 1969 in GSA's National Archives and Records Service. The Center helps Federal agencies with the control and distribution of their films. Also, the Center helps the public know what is available, and it handles the public's orders.

We hope that users of this catalog will find that it readily fulfills its purpose. Should you wish to raise some question or make a suggestion about it, we will be pleased to hear from you.

Robert L Kunzig

ROBERT L. KUNZIG
Administrator of General Services

PREFACE

This is the first edition of the sales catalog for the National Audiovisual Center. It is an impressive collection of materials covering a wide range of knowledge and skills. As more and more Federally produced materials are made available for purchase from the Center, the value of the catalog will increase, as will the scope and detail of subjects covered.

The films and filmstrips listed in this catalog are Federal records, since they document the functions and operations of Federal agencies[1]. Eventually some of the materials will become archives—when they are determined worthy of permanent preservation because of historical or other value.

Aside from the materials listed in this sales catalog, the National Audiovisual Center maintains a large quantity of Federally produced audiovisual materials available for loan. Inquiries about such materials may be addressed to the Center.

James B Rhoads

JAMES B. RHOADS
Archivist of the United States

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[1] The complete definition of Federal records is published in Title 44, U.S. Code, Section 3301.

TABLE OF CONTENTS

AGRICULTURE 3

Farm Maintenance 3
Live Stock 3
Meat 3

AUTOMOTIVE 4

Driver Training 4
Maintenance 4
Principles of Operation 4

AVIATION 6

Air Defense 6
Air Traffic Control 6
Air Warfare 6
Flight Training 6
Flying Exhibitions and Competition 8
General 8
Helicopter 9
History 10
Inspection and Maintenance 12
Navigation 13
Repair 14
Research and Development 15
Search and Rescue 16

BUSINESS 17

Contracts 17
Data Processing 17
Economy and Conservation 18
Management 18
Materials Handling 18
Quality Control 19
Supply 19
Techniques and Systems 19
Transportation 20

EDUCATION AND CULTURE 22

Educational Institutions 22
Languages 22
Mathematics 22
Music 22
Speech 22
Techniques 23
Writing 24

ELECTRICITY 25

Equipment 25
Installation 25
Theory 26

ELECTRONICS 28

Communications 28
Maintenance 28
Systems 29
Theory 29

HEALTH AND MEDICAL 32

Addiction 32
Anatomy 32
Bacteriology, General 33
Biology & Zoology 33
Cancer 34
Cardiovascular System 34
Chemistry 35
Cytology & Tissue Culture 35
Dental 36
Digestive System 42
Emergency Care 43
Environmental Health 43
Eyes 45
First Aid 45
Hemic & Lymphatic Systems 46
Human Relations 46
Medical & Paramedical Profession 46
Medical Facilities 47
Medical Research 47
Medical Supply 47
Microbiology & Bacteriology 47
Microbiology, General 50
Microbiology & Mycology 50
Microbiology & Parasitology 51
Microbiology & Virology 52
Military Medicine 53
Neurology 53
Nursing & Patient Care 54
Nutrition 56
Pharmacology & Toxicology 56
Physiology 56
Psychiatry & Psychology 57
Radiology 58
Rehabilitation 58
Respiratory System 60
Stroke 60
Surgery 60
Vaccine 62
Veterinary Medicine 62
Miscellaneous 62

HUMAN RELATIONS 65

Career Opportunities 65
Military Dependents 66
Rehabilitation 66
Social Security 66
Social Worker 67
Supervision 67
Vocational Guidance 67

MACHINING 69

Broaching Machine 69
Center-Type Grinder 69
Centerless Grinding Machine 69
Cutter Grinder 69
Drill Press 69
Engine Lathe 70
Gear Hobbing Machine 70

Horizontal Boring 71
Internal Grinder 71
Metal Cutting Band Saw 71
Milling Machine 71
Planer 72
Shaper 72
Surface Grinding 72
Turret Lathe 72
Vertical Boring 72
Vertical Milling 72

MARINE 74

Cooper-Bessemer Diesel Engine 74
Diving 74
Engines-Fairbanks Morse Diesel 74
Engineering 75
Engines 8-268A Diesel 75
Engines-General 75
Engines-General Motors 12-567A 76
Engines-General Motors 16-278A 77
Maintenance 77
Navigation 77
Research 78
Rules of the Road 78
Seamanship 79
Search and Rescue 80
Shipbuilding 80
Submarines 82

NATIONAL SECURITY 83

Civil Defense and Disaster 83
Communism 85
Defense Systems 86
Industrial Security and Security Control 88
Law Enforcement 89
Military Justice 89

PHYSICAL FITNESS 90

Exercises 90
Judo 90
Recreation and Sports 90

SAFETY 91

Accidents and Preventions 91
Air 91
Driving 92
Fire 92
Hospital 93
Industry 93
Water 93

SCIENCE 95

Aerodynamics 95
Atomic Energy 95
Oceanography 108
Physics 109
Space Programs 110
Weather 115
Miscellaneous 116

SOCIAL SCIENCE ... 118

American History ... 118
American History—Korean War ... 119
American History—World War II ... 120
American History—Vietnam War ... 120
Arctic and Antarctic ... 121
Community Life ... 122
Foreign Countries ... 123
Government ... 123
International Relations ... 123

TECHNICAL ... 125

Bench Work ... 125
Blacksmithing ... 125
Blue Print Reading ... 125
Carbide Cutting Tools ... 125
Construction ... 126
Foundry ... 127
Hand Tools ... 128
Hydrographic ... 128
Maps ... 128
Measurements ... 129
Metallurgy ... 129
Optics ... 129
Patternmaking ... 130
Photography ... 131
Plastics ... 131
Refrigeration ... 132
Soldering ... 132
Teletypewriter ... 132
Water Treatment ... 133
Welding ... 133

WOODWORKING ... 134

Band Saw ... 134
Jointer ... 134
Sander ... 134
Single Face Surfacer ... 134
Spindle Shaper ... 134
Variety Saw ... 134
Wood Lathe ... 134
Wood Preservation ... 135

FILMSTRIPS ... 136

INTRODUCTION

General Ordering Information

The prices listed in this catalog are for 16mm motion picture prints and 35mm filmstrip prints. On request we will quote prices and availability for furnishing specific items on 8mm film, video tape, electronic video recording, and other media.

Prices include reel, can, and postage within the United States and its possessions.

Most orders are filled in less than 30 days, but some may require as much as 60 days.

Use the order form furnished in the back of this catalog. Additional forms are available on request.

The following abbreviations are used in the film descriptions to indicate the agency which produced the film:

AID	Agency for International Development
DOD	Department of Defense
FAA	Federal Aviation Administration
FHA	Federal Highway Administration
HUD	Department of Housing and Urban Development
NASA	National Aeronautics and Space Administration
NIMH	National Institute of Mental Health
NMAC	National Medical Audiovisual Center
OCD	Office of Civil Defense
OSRD	Office of Scientific Research and Development
USA	U.S. Army
USAEC	U.S. Atomic Energy Commission
USAF	U.S. Air Force
USCE	U.S. Corps of Engineers
USCG	U.S. Coast Guard
USDS	U.S. Department of State
USGS	U.S. Geological Survey
USMC	U.S. Marine Corps
USN	U.S. Navy
USOE	U.S. Office of Education
USOEO	U.S. Office of Economic Opportunity
USPO	U.S. Post Office Department
VA	Veterans Administration

Notice

In general, the Government does not have full rights to the films it produces. In most cases the original contract prohibits any commercial use—for example, on television or at a showing where an admission fee is charged. Prospective purchasers with such commercial use in mind should first ascertain from the Center if the proposed use is permissible.

Where this catalog indicates that a film is cleared for television, such clearance is sufficient authorization for public service or educational use on television.

Preview Copies

For certain films we have preview copies, which prospective purchasers may borrow on request. Whenever a preview copy is not available, we will refer requests to the appropriate Federal agency. No filmstrips or television "spots" are available for preview.

Replacement Footage

When ordering film to replace damaged portions of previously purchased motion pictures, specify exactly the number of running feet needed. Measure either from the first main title or the last end title. Replacement footage will be charged at the following prices. Prices for other sizes are available upon request.

	Price (per foot)	Minimum Charge (per section)
Black and white, 16mm	$.10	$10.00
Color, 16mm	$.15	$15.00

AGRICULTURE

FARM MAINTENANCE

Care of a Tractor *(22 min., sd., b&w, 16 mm., Order No. OE 454, $38.50, USOE)* Day-by-day operating care of a tractor; importance of periodic inspections; parts of the tractor, including cooling system, fuel system, and ignition system.

Forge Welding *(12 min., sd., b&w, 16 mm., Order No. OE 192, $22.25, USOE)* How to maintain a clean, deep, hot fire; heat mild steel for forging; upset and scarf round stock; make a lap weld; and shape and hammer refine the weld.

Forging with a Hand Forge *(13 min., sd., b&w, 16 mm., Order No. OE 191, $23.75, USOE)* How to clean the tuyere and build an open fire in a forge; lay out and mark the stock; heat mild steel for forging; and forge an eye.

Horseshoeing *(19 min., sd., b&w, 16 mm., Order No. OE 458, $33.75, USOE)* How to handle a horse during shoeing; prepare the feet; select, fit, and nail on shoes; take off shoes; and tighten old shoes on a horse.

Reconditioning a Cultivator *(14 min., sd., b&w, 16 mm., Order No. OE 453, $25.50, USOE)* How to replace a worn wheel boxing; adjust yoke; check and adjust shovels; check and lubricate gang expansion and steering assemblies; and lubricate all parts of a cultivator.

Reconditioning a Grain Drill *(31 min., sd., b&w, 16 mm., Order No. OE 197, $53.50, USOE)* How to inspect and repair a typical grain drill; clean and lubricate the fertilizer and seeding mechanism; repair the disc furrow openers, drive chains, pawl assembly; and calibrate the seeding mechanism.

Reconditioning a Mower, Part I: Cutter Bar *(21 min., sd., b&w, 16 mm., Order No. OE 194, $37.00, USOE)* How to repair the sickle; repair and adjust the guards; mount and align the cutter bar; and check the mower's operation.

Reconditioning a Mower, Part II: Drive System *(21 min., sd., b&w, 16 mm., Order No. OE 195, $37.00, USOE)* How to clean, inspect, lubricate, and replace the wheel assembly; replace a worn wrist pin; disassemble and inspect the gear assembly; check and remove, if worn, flywheel shaft bearings and install new bearings; and lubricate the reconditioned mower.

Reconditioning a Two-Bottom Tractor Plow *(25 min., sd., b&w, 16 mm., Order No. OE 196, $43.75, USOE)* How to check and repair the wheel assemblies and the power lift assembly; recondition the plowshares; adjust the coulter; and check and adjust the furrow wheels in the field.

Sharpening and Tempering Farm Tools *(17 min., sd., b&w, 16 mm., Order No. OE 193, $30.50, USOE)* How to heat carbon steel tools for forge sharpening; sharpen, harden, and temper a plowshare and a cultivator shovel; and identify tempering colors.

LIVESTOCK

Handling Livestock for Market *(21 min., sd., b&w, 16 mm., Order No. OE 459, $37.00, USOE)* Causes of losses in marketing livestock; how to prevent injuries to livestock on the farm, before shipment, when loading, and during shipment.

Poultry Processing Inspection *(18 min., sd., color, 16 mm., Order No. TF 8151, $61.75, USAF)* Outlines poultry processing inspection procedures required by the U.S. Department of Agriculture, U.S. Public Health Service, and Medical Services of the Army and the Air Force. Explains the duties of Air Force veterinary officers in checking cleanliness of plant and personnel, unloading and handling of birds, animal maladies, slaughtering procedures, defeathering, dressing, removal of pinfeathers, singeing, evisceration and processing of edible parts, cutting up, packing and freezing.

MEAT

Canning Beef *(17 min., sd., b&w, 16 mm., Order No. OE 455, $30.50, USOE)* How to prepare soup stock; preheat beef; pack hot beef in cans; seal the cans; process canned beef; and cool and dry the cans before packing.

Cutting and Boning a Forequarter of Beef *(19 min., sd., b&w, 16 mm., Order No. OE 456, $33.75, USOE)* How to chill beef; quarter it; trim the forequarter; cut wing, crosscut chuck, brisket, and chuck; and prepare meat for freezing or canning.

Cutting and Boning a Hindquarter of Beef *(17 min., sd., b&w, 16 mm., Order No. OE 457, $30.50, USOE)* How to separate the round from loin and rump; cut the round; remove the tenderloin; separate sirloin and rump from shell loin; and prepare meat for freezing or canning.

AUTOMOTIVE

DRIVER TRAINING

Driving the Semi-Trailer *(19 min., sd., b&w, 16 mm., Order No. TF 55-1478, $33.75, USA)* Explains checking procedure for safety and protection of equipment, and shows how to back a trailer up to a platform for loading or unloading.

The Operator and His Job *(12 min., sd., b&w, 16 mm., Order No. OE 491, $22.25, USOE)* Illustrates three responsibilities of the bus operator: safety and comfort of his passengers, maintenance of schedules and a courteous attitude toward passengers.

Your Driving Habits *(15 min., sd., b&w, 16 mm., Order No. OE 487, $27.00, USOE)* Elements of good driving; how to start the engine; use the clutch and shift gears; use brakes; drive on curves, in mountainous country, and through snow and mud; and park a car.

MAINTENANCE

Automotive Trouble Shooting. Part 2: Engine Tune-Up *(33 min., sd., b&w, 16 mm., Order No. TF 9-2194, $56.75, USA)* Explains the procedures and techniques employed in engine tune-up of wheeled vehicles, including manifold vacuum and compression tests, battery and ignition cable checks, spark plug check, distributor and ignition timing check, battery clearance, manifold and heat control valve check, fuel system test, carburetor check, and idling speed and mixture adjustments.

Bus Care and Maintenance *(13 min., sd., b&w, 16 mm., Order No. OE 494, $23.75, USOE)* Importance of daily and weekly maintenance checks; how to start, steer, and stop the bus; how to double clutch; and the importance of safe driving habits.

Engine Tests and Tune Up *(18 min., sd., b&w, 16 mm., Order No. OE 465, $32.00, USOE)* How to adjust the automatic choke; check and adjust ignition, valve tappets, and carburetor; make vacuum guage tests; and test the vacuum brake system.

Introduction to Preventive Maintenance *(12 min., sd., b&w, 16 mm., Order No. OE 461, $22.25, USOE)* Importance of preventive maintenance in truck operation; typical checks of the clutch pedal, battery, and voltage regulator.

Keeping Your Car Fit *(12 min., sd., b&w, 16 mm., Order No. OE 488, $22.25, USOE)* Why a weekly checkup is necessary; tires should be crisscrossed; cars lubricated regularly; the oil filter element replaced; and the cooling system inspected periodically.

Know Your Car *(15 min., sd., b&w, 16 mm., Order No. OE 486, $27.00, USOE)* Construction of a car chassis; how the engine functions; operations of the clutch, transmission, rear axle, brakes, and electrical and cooling system.

The Periodic Check-Up *(18 min., sd., b&w, 16 mm., Order No. OE 489, $32.00, USOE)* Tuning up the engine, checking and adjusting the brake system, and inspecting the steering system, chassis, and body.

Steering Wheels, Front and Rear Axles *(19 min., sd., b&w, 16 mm., Order No. OE 484, $33.75, USOE)* How to check for play in the steering wheel and the front end assembly; correct wheel runout; make a toe-in test; and test springs, axles, and overall backlash.

Transmission, Drive Shaft, and Differential *(14 min., sd., b&w, 16 mm., Order No. OE 485, $25.50, USOE)* How to check the transmission, gear shift mechanism, drive shaft, and differential; and test their running condition.

Trouble Shooting your Car *(12 min., sd., b&w, 16 mm., Order No. OE 490, $22.25, USOE)* What a driver should do to locate and correct minor car troubles; and how to recognize symptoms of impending trouble.

PRINCIPLES OF OPERATION

Automobile Electricity for Military Vehicles. Part 2: Principles of Operation of the Generator *(13 min., sd., b&w, 16 mm., Order No. TF 9-2330, $23.75, USA)* Explains the design and operation of the automotive generator; its conversion of electrical energy to feed the ignition and accessory systems and to charge the battery; the relationship between electricity and magnetism; and the construction of a rudimentary generator, including the purpose and operation of segments, brushes, pole pieces, and field windings.

Automotive Electricity for Military Vehicles. Part 3: Principles of the Starting Motor *(12 min., sd., b&w, 16 mm., Order No. TF 9-2331, $22.25, USA)* Electrical and magnetic principles involved in the operation of the starting motor. How electrical energy is converted to mechanical energy.

Automotive Electricity for Military Vehicles. Part 4: The Ignition Circuit *(11 min., sd., b&w, 16 mm., Order No. TF 9-2332, $19.25, USA)* Defines the purpose and operation of the ignition circuit and describes how each component functions. Combining actual operation with animation, traces the course of electrical current through the components of the ignition system battery, ignition coil, distributor, breaker points, condenser, rotor, terminals, and spark plugs and emphasizes the relation of the primary circuit, secondary circuit, and magnetic field to voltage intensity.

The Battery, Ignition, and Electrical System *(26 min., sd., b&w, 16 mm., Order No. OE 462, $45.50, USOE)* How to check and service the battery; check the starting motor, generator, lighting circuit, electrical instruments, and ignition system.

Carburetor, Principles of Operation *(25 min., sd., b&w, 16 mm., Order No. TF 9-2253, $43.75, USA)* Explains the major components of a carburetor (bore, bowl, and air throttle); how air pressure differential is utilized; application of the Venturi principle; metering; atomization, vaporization, and the operation of carburetor circuits (float, low speed, high speed, accelerator pump, and choke).

The Clutch and Hand Brake *(12 min., sd., b&w, 16 mm., Order No. OE 482, $22.25, USOE)* How to determine the amount of clutch pedal clearance or "lash"; check clutch for slipping, grabbing, or drag; and inspect and adjust the hand brake.

The Cooling System and Fuel System *(22 min., sd., b&w, 16 mm., Order No. OE 464, $38.50, USOE)* How to check for leaks in the cooling system; check the fan and water pump; mechanical operation of the carburetor; filters and vents; fuel pump; and leakage in the fuel system.

The Engine Assembly *(19 min., sd., b&w, 16 mm., Order No. OE 463, $33.75, USOE)* How to check the cylinder head and block, intake and exhaust manifolds; under-chassis parts; valve mechanism and tappets; vents, screws, and air filters; oil filter and oil lines; and cylinder depression.

The Fluid Coupling, Principles of Operation *(13 min., sd., b&w, 16 mm., Order No. TF 9-1953, $23.75, USA)* Explains the fluid coupling, its components parts, and operation.

The Hydraulic Brake System *(12 min., sd., b&w, 16 mm., Order No. OE 483, $22.25, USOE)* How to check brake pedal travel; examine the brake lining; adjust the brake shoes and inspect and adjust the hydraulic brake fluid system.

Hydraulic Controls in the Hydramatic Transmission *(26 min., sd., b&w, 16 mm., Order No. TF 9-1992, $45.50, USA)* Explains and demonstrates the basic shifting patterns in hydramatic transmission. Using animated sequences, demonstration models, and live action, shows how hydraulic controls are applied in each phase of up-shifting and down-shifting.

Hydraulic Steering, Principles of Operation *(14 min., sd., b&w, 16 mm., Order No. TF 9-2254, $24.50, USA)* Explains the operating principles of the hydraulic steering assist mechanism by illustrating the functions of its major components: reservoir, pump, relief valve, control valve, and power cylinder; and shows how these components, acting on the principle of preserve differential, deliver the steering assist.

Supercharging and Fuel Injection *(20 min., sd., b&w, 16 mm., Order No. TF 9-2240, $35.25, USA)* Discusses the supercharging and fuel injection systems used on army vehicles to provide increased horsepower for engines without increasing the size of the engine; and covers their purpose, components, and functions.

AVIATION

AIR DEFENSE

Ace in the Hole *(15 min., sd., color, 16 mm., Order No. SFP 1094, $51.75, USAF)* Traces the development of the Minuteman, the Air Force's "ace in the hole," and emphasizes the value of this weapon to the blend of manned and unmanned counterforce systems. Points out that because of its simplicity in manufacture, maintenance, and operation, the Minuteman can be provided in larger numbers at much lower cost than any other strategic system. Shows how the Minuteman, which can be launched from underground silos or from mobile rail cars, offers the enemy a virtually impossible targeting area.

The ADC Fighter Dispersal Program *(12 min., sd., color, 16 mm., 1962, Order No. FR 295, $42.00, USAF)* Presents graphic overview of ADC's two-fold alert and dispersal program designed to protect fighter aircraft from ICBM attack while enabling them to mount defensive air attack against airborne enemy invasion.

Strategic Air Command Combat Missile Force *(15 min., sd., color, 16 mm., 1963, Order No. SFP 1200, $51.75, USAF)* A tour of an Atlas and a Titan underground launch site. Shows support equipment, powerhouse, control center, missile crews, and command post at the Atlas facilities. Points out the tight security measures and controls over accidental firing. Shows support and antenna silos, crew facilities, and wing command post at the Titan site. Simulates an enemy attack to demonstrate instant retaliation potential of our combat missile force. Cleared for TV.

Weapons Ranges—USAF *(30 min., color, 1966, Order No. SFP 1570, $101.00, USAF)* Depicts weapons delivery training at various Air Force ranges for SAC, TAC, and ADC air missile crews. Shows need for land expanse for training and discusses U.S. efforts to release areas for this purpose. Cleared for TV.

AIR TRAFFIC CONTROL

Air Traffic Control Procedures *(30 min., sd., b&w, 16 mm., Order No. TF 1-5350, $52.00, USAF)* Outlines air traffic control responsibilities of pilots and controllers and points out the growing complexity of air traffic problems.

The Pilot and Air Traffic Control *(29 min., sd., b&w, 16 mm., Order No. TF 1-5041, $50.25, USAF)* Explains air traffic control procedures and techniques including en route, approach, and local power control; instrument plane control; air traffic control centers; air traffic controllers; ARTC, SFC, and ATC clearance procedures; checkpoints in flight; airways communications stations, control towers, and equipment; ILS and GCA radar approach control.

Progress in Air Traffic Control *(20 min., color, Order No. SFP 1428, $68.25, USAF)* Briefly reviews the history of air traffic control and depicts techniques and systems presently in operation. Describes plans for improved future control and conservation of air space to handle increasing air traffic. Also cites military and Federal Aviation Agency cooperation.

Scramble Two—The Joint Use of Air Defense and Air Traffic Control Facilities *(20 min., sd., color, 16 mm., Order No. SFP 1109, $68.25, USAF)* Depicts the co-operation between Air Defense Command and Federal Aviation Agency in sharing radar data to accomplish their missions of air defense and air traffic control.

Traveler Meets Air Traffic Control, A *(33 min., color, Order No. FA-102, $118.25 USAF)* This is a non-technical film depicting departure, en route and arrival air traffic control services provided to a civilian jet air carrier which departs Chicago O'Hare Airport and lands at Los Angeles International Airport.

What's My Traffic? *(25 min., color, Order No. FA-201, $159.50, FAA)* Explains principles of en route air traffic control. Directed to IFR pilots. Film of use in basic en route air training. Also of value in terminal and station cross-training.

AIR WARFARE

Air Power in Action—The U.S. Air Force in Vietnam *(13 min., color, Order No. FR 643, $45.25, USAF)* Depicts key role of air power in Vietnam crisis. Shows activities in strategic and tactical air-to-ground assault, interdiction, reconnaissance, air rescue, and assault airlift. Cleared for TV.

Another Day of War—The USAF in Vietnam *(14 min., color, Order No. SFP 1639, $48.50, USAF)* Depicts a typical day in the life of Air Force personnel serving in Southeast Asia. Highlights include air and ground warfare, air rescue, flight line maintenance, civic action program, and food service activities. Cleared for TV.

TAC in Action *(15 min., color (also b&w), Order No. FR 398, $51.75, USAF)* Describes TAC's capabilities in aerial fire power, reconnaissance, guerrilla warfare and assault airlifts. Reviews TAC's role in Cuban crisis and in Vietnam COIN operations. Cleared for TV.

Tactical Air Power *(20 min., sd., color, 1967, Order No. SFP 1597, $68.25, USAF)* Discusses military importance of tactical air power especially in current counter-insurgency operations. Demonstrates latest striking power capabilities of Tactical Air Command (TAC). Depicts weapons deliveries, assault airlifts, close air support and reconnaissance operations. Shows latest methods for ground extraction and air drops of heavy equipment and supplies. Also introduces the F-11, latest in TAC's aircraft inventory. Cleared for TV.

Tactical Bomber in All-Weather Operations *(11 min., sd., b&w, 16 mm., Order No. TF 1-5186, $19.25, USAF)* Demonstrates the uses and operations of the tactical bomber and the need for close coordination of air, land and sea forces in modern warfare.

There Is a Way (Revised) *(27 min., sd., color, 1967, Order No. SFP 1767, $91.25, USAF)* A shorter version of SFP 1756, same title, film portrays life of F 105 pilots who daily fight the air war in Southeast Asia. Pictures their hazardous missions against determined enemy fire in the North, while pilots and crews tell about the job they are doing and why. Cleared for TV.

The United States Air Force in Vietnam *(27 min., sd., color, 1967, Order No. SFP 1562, $91.25, USAF)* Outlines Air Force activities and operations in Southeast Asia since 1964. Depicts personnel and equipment buildup; chemical, psychological and tactical air warfare; air reconnaissance and rescue and assault and strategic airlifts. Also depicts PACAF responsibilities and 7th Air Force Command and control activities. Cleared for TV.

FLIGHT TRAINING

Aircraft Familiarization: T2J-1 Buckeye, Aircraft Systems *(13 min., sd., color, 16 mm., Order No. MN 8817-a, $45.25, USN)* Introduces the Naval air basic training student to the T2J-1 Buckeye and its aircraft systems. Describes in diagrammatic detail the fuel, oil, hydraulic, and electrical systems.

Aircraft Familiarization: T2J-1 Buckeye, Emergency Procedures *(10 min., sd., color, 16 mm., Order No. MN 8817-b, $34.00, USN)*

Demonstrates simulated in-flight emergencies in the T2J-1 Buckeye for the benefit of the Naval air basic training flight student. Includes engine failure with air start procedures, fire, failure of the aircraft systems, remedial procedures, and operation of the pilot escape (ejection seat) system.

Aircraft Familiarization: T2J-1 Buckeye, Operating Procedures *(22 min., sd., color, 16 mm., Order No. MN 8817-c, $74.75, USN)* Takes a Naval air basic training student through initial familiarization flight in the T2J-1 Buckeye. Demonstrates complete pre-flight inspection of aircraft, pre-start cockpit check, engine start, taxiing, take-off, stall, spin, roll, let-down to landing approach, final landing, and shut-down procedure.

Aircraft Familiarization: T2J-1 Buckeye, Field Carrier Landing Procedures *(11 min., sd., color, 16 mm., Order No. MN 8817-d, $37.25, USN)* Describes the detailed patterns for landing procedures and demonstrates the flight techniques to be utilized by the Naval air basic training student in flying paddles-controlled and mirror approaches in field carrier landing procedures for the T2J-1 Buckeye. Illustrates LSO signals and mirror "meatball" positions with in-flight responses required of the student pilot.

Aircraft Familiarization: T2J-1 Buckeye, Carrier Procedures *(10 min., sd., color, 16 mm., Order No. MN 8817-e, $34.00, USN)* Shows paddles-controlled and mirror approaches for carrier landings in the T2J-1 Buckeye. Demonstrates carrier deck handling procedures between arrested landing and catapulting, pilot techniques for maneuvering T2J-1 onto the catapult, and standard cockpit procedures prior to launch.

The Aircraft Observer's Place in the Air Force *(26 min., sd., b&w, 16 mm., Order No. SFP 311, $45.50, USAF)* Explains the function of the aircraft observer and follows a pre-flight student through his navigation electronics, and flight training, which qualifies him as navigator, bombardier, and radarman on a B-47 crew.

F-84F Combat Crew Training, Luke Air Force Base *(17 min., sd., color, 16 mm., Order No. SFP 491, $58.50, USAF)* Describes F-84F pilot training conducted at Luke Air Force Base, Arizona, including classroom, academic, instrument, pilot, and gunnery training.

Fixed Wing Primary Flight Training—Part I—Introduction to Flight *(19 min., sd., b&w, 16 mm., 1962, Order No. TF 46-3265, $33.75, USA)* Nomenclature and functions of parts of aircraft.

Fixed Wing Primary Flight Training—Part VI—Forced Landings *(13 min., sd., b&w, 16 mm., 1962, Order No. TF 46-3270, $23.75, USA)* Examples of emergency landing sites and use of familiar landing patterns; approach and safe execution of forced landing.

Fixed Wing Primary Flight Training—Part VII—Directional Control *(14 min., sd., b&w, 16 mm., 1963, No. TF 46-3217, $25.50, USA)* Use of aircraft instruments in controlling the direction in the roll out.

Flight Through Instruments: Basic Instrument Flying *(24 min., sd., b&w, 16 mm., Order No. MN 6773-a, $42.25, USN)* Shows a pilot how to use the instrument panel as a lens or window through which he "sees" the airplane in its relation to the three dimensions in which it travels. Illustrates the instruments that are now standard equipment in modern planes and explains how to use them.

Flight Training: Before You Fly *(14 min., sd., b&w, 16 mm., Order No. MN 7398-a, $25.50, USN)* Shows the basic pilot pre-flight check using the SNJ-6 trainer; stresses the pattern to be used by pilots in inspecting their aircraft prior to flying. Demonstrates how to leave the line, taxi, and return to the line, and how to start and stop the engine.

Flight Training: Take-offs, Approaches, and Landings *(14 min., sd., b&w, 16 mm., Order No. MN 7398-b, $25.50, USN)* Demonstrates basic approach, landing, and take-off techniques to student aviators.

Flight Training: Crosswind Approaches, Landings, and Take-Offs *(8 min., sd., b&w, 16 mm., Order No. MN 7398-c, $14.25, USN)* Explains principles of crosswind crabbing, and approach and landing techniques.

Flight Training: Emergencies *(9 min., sd., b&w, 16 mm., Order No. MN 7398-d, $15.75, USN)* Illustrates high altitude and low altitude emergency procedures as taught in the SNJ-6 basic trainer.

Flight Training: Small Fields *(11 min., sd., b&w, 16 mm., Order No. MN 7398-e, $19.25, USN)* Demonstrates the small field pattern; emphasizes the no. 1 and no. 2 positions and approaches from these positions; and shows the effect of wind and the importance of crosswind gliding.

Flight Training: Wingovers and Chandelles *(13 min., sd., b&w, 16 mm., Order No. MN 7398-f, $23.75, USN)* Shows the performance of wingovers and chandelles, stressing the reasons for these maneuvers and how a student can learn to coordinate controls through practicing these maneuvers.

Flight Training: The Wingover Roll *(11 min., sd., b&w, 16 mm., Order No. MN 7398-g, $19.25, USN)* Explains to student pilots the overall pattern and positions of the SNJ aircraft in the wingover roll. Shows specific relationships of the plane to ground check points during clearing turns, initial starting point, 45 degree position, 90 degree inverted position, and recovery.

Flight Training: The Barrel Roll *(9 min., sd., b&w, 16 mm., Order No. MN 7398-h, $15.75, USN)* Explains to student pilots the overall pattern and positions of the SNJ aircraft in the barrel roll. Shows specific relationships of the plane to ground check points during clearing turns, initial starting point, 45 degree position, inverted position, and recovery.

Flight Training: Fundamentals of Formation Flying, Three Plane and Four Plane *(25 min., sd., b&w, 16 mm., Order No. MN 7398-i, $43.75, USN)* Explains to the student naval aviator the basic fundamentals of formation flying. Shows formation maneuvers in plane photography, animation, and student's eye view sequences starting with rendezvous through break-up. Based upon three- and four-plane sections using SNJ-6 aircraft.

Ground Handling of Aircraft in Cold Weather—Taxiing, Towing, and Securing *(16 min., sd., b&w, 16 mm., Order No. MN 7474B, &28.50, USN)* How to taxi and tow aircraft under adverse conditions; securing aircraft in cold weather, using tie-downs and plane covers.

Instrument Flight Control—Diaphragm Instruments *(17 min., sd., b&w, 16 mm., Order No. FN 8048A, $30.50, USN)* Operating principles and mechanism of air speed indicator, rate of climb indicator, altimeter; action of Pitot static system.

Instrument Flight Control—The Direct Indicating Magnetic Compass *(10 min., sd., b&w, 16 mm., Order No. FN 8048C, $17.50, USN)* Errors of magnetic variation and deviation; principle parts and mechanical operation of the magnetic compass, use of the compass rose; correction for lag and lead; magnetic variation and deviation.

Instrument Flight Control—Gyroscope Instruments—Part II *(21 min., sd., b&w, 16 mm., Order No. FN 8048E, $37.00, USN)* Operating principles of the attitude gyro, vertical gyro indicator, directional gyro, the gyro stabilized compass, turn and slip indicator.

Instrument Flying Techniques: Basic Instruments *(30 min., sd., b&w, 16 mm., 1961, Order No. TF 1-5342-a, $52.00, USAF)* Emphasizes the importance of learning, perfecting and practicing instrument flying techniques. Includes instrument coverage, instrument interpretation and control techniques. Explains use of control and performance instruments.

Instrument Flying Techniques: Take-off and Unusual Altitudes *(15 min., sd., b&w, 16 mm., 1961, Order No. TF 1-5342-b, $27.00, USAF)* Familiarizes pilots with the technique of instrument take-off. Good instrument take-off depends on how a pilot interprets and cross checks his instruments. Explains recovery procedures from unusual altitudes on instruments alone.

Instrument Flying Techniques: Approach Procedures *(25 min., sd., b&w, 16 mm., 1961, Order No. TF 1-5342-c, $43.75, USAF)* Teaches pilots the procedures to follow in approaching an airfield under unfavorable weather conditions. Describes the types of facilities available. Gives particular emphasis to VOR and TACAN approach principles. Outlines advantages of obtaining an early landing clearance.

Jets Aboard: Operation of Jet Aircraft Aboard Carriers *(23 min., sd., b&w, 16 mm., Order No. MN 5395-b, $40.50, USN)* Describes six factors in flight deck handling of jet aircraft; rolling planes without rocking; securing parked jets against wind and weather; assistance in taxiing jets; catapulting jets in pairs; helping jets land almost nose to tail and servicing jet planes to maximum capacity.

Primary Pilot Navigation *(27 min., sd., color, 16 mm., Order No. TF 1-4990, $91.25, USAF)* Emphasizes the importance of a flying cadet's first cross-country solo. Includes the pre-flight preparations and all details of the flight plan and the flight.

The U.S. Naval Test Pilot School *(13 min., sd., color, 16 mm., Order No. MN 8613, $45.25, USN)* Shows the academic and flying curriculum of a student test pilot as he goes through the Test Pilot School and the test which he will be taking in one of the form-test divisions at NATC and in the fleet.

FLYING EXHIBITIONS AND COMPETITION

Executive Check *(25 min., sd., color, 16 mm., 1963, Order No. SFP 1157, $84.75, USAF)* Pictures views of President John F. Kennedy's visit to Eglin Air Force Base where he sees the latest in air warfare operations and weapons. Demonstrates SAC and TAC minimum interval take-off techniques, air commando exercise, air-to-air and air-to-ground rocketry and gunnery, and close air support. Shows the President as he views a static display of every type of operational Air Force aircraft, including the X-15. Cleared for TV.

On Target *(22 min., sd., color, 16 mm., 1958, Order No. SFP 559, $74.75, USAF)* Portrays the story of the Strategic Air Command's annual bombing , navigational, and reconnaissance competition from the viewpoint of a B-47 crew member. Cleared for TV.

Sky Tigers *(6 min., sd., b&w, 16 mm., 1960, Order No. SFP 564, $11.00, USAF)* Shows Chinese Air Force jet demonstration team, the Thunder Tigers, performing aerobatics in unison.

Supersonic Thunderbirds *(14 min., sd., color, 16 mm., Order No. SFP 637, $48.50, USAF)* Portrays the famous jet aerobats in their homes and in Super Sabres as they fly through breath-taking maneuvers, including a power climb, the graceful cloverleaf turn, an intricate loop with wing tips overlapping, a tight 360 degrees turn that builds up terrific G forces, and the spectacular "bomb burst."

William Tell—1965 *(27 min., sd., color, 1966, Order No. SFP 1414, $91.25, USAF)* Highlights William Tell interceptor competition with focus on preparatory training, aerial intercepts, and judging and scoring details. Reviews participating teams, aircraft weapons and targets. Cleared for TV.

GENERAL

The ABC's of Briefing *(17 min., sd., color, 16 mm., Order No. TF 1-5254, $58.50, USAF)* Demonstrates methods of preparing and presenting effective briefings; emphasizes the importance of accuracy, brevity and clarity as the ABC's of good briefing.

The Air Force on Canvas *(18 min., sd., color, 1963, Order No. SFP 1188, $61.75, USAF)* Presents paintings which bring to life all phases of USAF world wide operations. Reflects achievements and progressive missions of the developing air power. Glimpses artist's concept of reach into space. Cleared for TV.

Arctic Airlift *(11 min., sd., color, 16 mm., 1959, Order No. SFP 619, $37.25, USAF)* Depicts the training necessary to keep the Military Air Transport Service (MATS) planes and crews geared to their wartime airlift mission in support of Strategic Air Command activities in the Arctic; shows how MATS conducts this training. Cleared for TV.

Aviation Mechanic *(20 min., sd., color, 16 mm., 1964, Order No. FA-315, $72.50, FAA)* Discusses the vital importance of the work performed by airline and general aviation mechanics as well as the technical training available to students. Provides an insight into the varied skills and opportunities found in civil aviation today. Cleared for TV.

Beneath Navy Wings *(28 min., sd., color, 16 mm., 1961, Order No. MN 9454, $94.50, USN)* A recruiting film designed to encourage enlistments in U.S. Naval aviation. Through the story of two enlisted men aboard an ASW patrol plane, emphasizes the education and training involved in preparing enlisted men and women for work in various naval aviation specialties.

The Best Investment We Ever Made *(24 min., sd., color, 1964, Order No. FA-304, $87.00, FAA)* Factual documentary on value of small-town airports to communities' economy. Narrated by Arthur Godfrey. Cleared for TV.

Bob Cummings Visits the Air Force Academy with His Son Bob Cummings, Jr. *(14 min., sd., color (also b&w), 1959, Order No. SFP 668, $48.50, USAF)* Bob Cummings takes his son Robert on an exciting tour of the Air Force Academy. Besides explaining the curriculum and extra-curricular activities of the school, Bob points out career opportunities available to eligible young men. Cleared for TV.

The Cadet Honor Code *(28 min., sd., color, 16 mm., 1967, Order No. SFP 1657, $94.50, USAF)* Defines Air Force Cadet Honor Code and its administration by Academy cadets. Discusses significance of the code in helping to develop men of responsibility and integrity. Stresses importance of the code to the cadet, to the Air Force and to national interest. Offers statements from several cadets describing meaning of code to them. Cleared for TV.

Cadet Wings in Civil Air Patrol *(15 min., sd., color, 16 mm., 1966, Order No. SFP 1532, $51.75, USAF)* Depicts the new CAP flight training program conducted jointly with Federal Aviation Agency and Air Force. Shows how cadets undergo intensive physical fitness, classroom, and in-flight instruction before receiving their wings at graduation exercises. Cites value of program in creating a reservoir of young men trained for Air Force duties. Cleared for TV.

Decision for Leadership *(23 min., sd., color, 16 mm., 1964, Order No. SFP 1210, $78.25, USAF)* Portrays the USAF Officer's Training School. Depicts career opportunities offered qualified college graduates. Shows training, scope of curriculum, and physical training program. Cleared for TV.

Flying Brothers *(11 min., sd., color, 16 mm., 1964, Order No. SFP 1220, $37.25, USAF)* Flyers from Far East countries and United States meet at Clark AFB, Philippines, for the annual Southeast Asian Flying Brothers conference. Sharing new ideas in tactical warfare promotes good will and understanding, the primary objective of the event. Cleared for TV.

It Pays To Stay Open *(23 min., sd., color, 16 mm., 1966, Order No. FA-609, $83.50, FAA)* This film documents how low-cost lighting of airports, particularly utility-type airports provides round-the-clock operations and can result in economic benefits to a community. Describes how business leaders of two Massachusetts communities, working with their State Aeronautics Commissions and the Federal Aviation Administration, equipped their airports with low-cost runway and approach light. Cleared for TV.

June Week *(25 min., sd., color, 16 mm., 1960, Order No. SFP 693 $84.75, USAF)* Portrays events of the U. S. Air Force Academy's first graduation week. Shows some highlights of the cadets' four years of training and describes the training given. Closes with the graduation exercises when 207 cadets receive diplomas and commissions as second lieutenants in the U. S. Air Force. Cleared for TV.

Naval Aviation and You *(26 min., sd., color, 16 mm., Order No. MN 9229, $88.00, USN)* A recruiting film explaining the twelve NavAir rates, showing their jobs afloat, and emphasizing the training received at naval air technical training schools. Reviews the four phases of primary school training and the training for each of the rates in the specialty advanced schools.

One Eye on the Instruments *(15 1/2 min., color, sd., 16 mm., 1962, Order No. FA-209, $87.00, FAA)* This film is designed to encourage general aviation pilots to take advantage of the FAA's Blue Seal Certification Program. It depicts a small-town airport and compares the flying ability of two of the local pilots. One is an old pro who flys by the seat of his pants. The other is a younger pilot who has taken advantage of instrument training possibilities. The hazards of flying in IFR weather without instrument flying knowledge is vividly illustrated.

A Path to Wings—The Air Force ROTC Flight Instruction Program *(15 min., sd., color, 16 mm., 1968, Order No. SFP 1788, $51.75, USAF)* Encourages Air Force ROTC cadets to pursue a career as Air Force pilots through the flight instruction program. Shows how program determines cadet's potential for formal Air Force training. Cites benefits of learning to fly and of possessing a pilot's license regardless of future plans. Cleared for TV.

Private Pilot *(15 min., sd., color, 16 mm., 1963, Order No. FA-211, $54.00, FAA)* Follows a family on a cross-country business and pleasure trip flying a small aircraft. Shows the role of the various FAA facilities utilized by private pilots and general aviation. Cleared for TV.

Self: The Mobile Airfield *(14 min., sd., color, 16 mm., Order No. MH 9546-b, $48.50, USN)* Depicts the need for short airfield runways tailored to the requirements of jet aircraft operating to support military doctrine in amphibious assault operations. Describes the installation of SELF (short expeditionary land field) and companion equipment for operational tests and shows SELF successfully passing these tests during Operations Blue Star.

HELICOPTER

Advanced Helicopter Flight Principles. Part I *(10 min., sd., b&w, 16 mm., Order No. TF 46-2210, $17.50, USA)* Discusses the characteristics and movements of the rotor blades at various speeds, underscoring the importance of symmetrical airfoil design for helicopter stability; illustrates movements in the fully articulated and semi-rigid types of rotor heads, pointing up the relationship of the aerodynamic phenomena and flight; reviews the principal stabilizing and dampening devices used to integrate control and rotor movements.

Advanced Helicopter Flight Principles. Part II *(11 min., sd., b&w, 16 mm., Order No. TF 46-221, $19.25, USN)* Discusses the effects of air movements on flight, the utilization of and adjustment of those air movements, and the need to create air movements for flight; explains airflow patterns from take-off through flight, glide and landing, hovering, translational climb, directional flight, autorotational glide, and landing. Emphasizes that proper application of flight principles and proper maintenance are necessary for efficient helicopter performance.

Basic Helicopter Flight Principles *(15 min., sd., b&w, 16 mm., Order No. TF 46-2209, $27.00, USA)* Explains through animation and live photography, the basic aerodynamic principles applied to helicopter flight including lift, thrust, drag, weight, velocity of airflow over airfoil, collective pitch, dissymmetry of lift, coning and coning angle, flapping and flapping angle, gyroscopic procession laws, and torque.

Helicopter: Arctic Operations *(29 min., sd., color, 16 mm., Order No. TF 1-5102a, $97.75, USAF)* Demonstrates techniques and procedures necessary for safe helicopter operations in the Arctic.

Helicopter Maintenance. Part III: Introduction to Power Trains *(15 min., sd., b&w, 16 mm., Order No. TF 55-2310, $27.00, USA)* Discusses the function, major components, and operation of the single rotor type power train in the H-19 helicopter, and the tandem rotor type power train in the H-21 helicopter.

Helicopter: Mountain Operations *(25 min., sd., color, 16 mm., Order No. TF 1-5102B, $84.75, USAF)* Describes techniques and procedures necessary to the safe operation of helicopters in mountainous terrain. Shows pre-flight plans and precautionary measures, cargo loading, sling loads, power conservation through maximum utilization of mountain winds, and turbulence and similar obstacles encountered in mountain operations. Shows an actual flight of two H-19's to explain safe approaches and take-offs.

Helicopter Orientation: Introduction to Helicopters *(20 min., sd., b&w, 16 mm., Order No. TF 46-2554, $35.25, USA)* Depicts the historical development of the helicopter from the fifteenth century to the present and shows several types of helicopters in use by the military services as well as some experimental models. Discusses basic helicopter flight principles, including gravity, lift, thrust, drag, torque, dissymmetry of lift, and the effects of collective and cyclic pitch change. Shows flight controls in a typical helicopter and some civil and military applications of the helicopter.

Helicopter: Vibrations and Resonance. Part I: Vibrations in the H-13 *(12 min., sd., b&w, 16 mm., Order No. TF 1-5102c, $22.25, USAF)* Explains various types of vibration in the H-13 helicopter and how to determine the cause of each. Through animation, describes and traces to the cause each tell-tale vibration. Explains low, medium, and high frequency vibrations.

Helicopter: Vibrations and Resonance. Part II: Vibrations in the H-19 *(7 min., sd., b&w, 16 mm., Order No. TF 1-5102d, $12.50, USAF)* Demonstrates vibrations in the H-19, and checks to determine the causes, including medium and high frequency vibration, blades out of track, improper torque, internal malfunctions, main and tail rotor assembly, tail rotor driveshaft, etc.

Helicopter: Vibrations and Resonance. Part III: Vibrations in the H-21 *(5 min., sd., b&w, 16 mm., Order No. TF 1-5102e, $9.25, USAF)* Tell-tale vibrations in the H-21 are demonstrated, described, and traced to the cause.

Helicopter: Vibrations and Resonance. Part IV: Ground Resonance *(8 min., sd., b&w, 16 mm., Order No. TF 1-5102f, $14.25, USAF)* Demonstrates by animation the techniques required to avoid ground resonance caused by severe oscillation, unbalanced rotor system, low strut, low tire, faulty loading, etc.

Helicopter: Emergency Procedures. Part I: Blade Stalls *(12 min., sd., b&w, 16 mm., Order No. TF 1-5102g, $22.25, USAF)* Shows emergency procedures to be followed during blade stalls. Explains stall areas, angle of pitch, recovery procedures, reverse flow, weight, turbulence, high density altitudes, G forces, and lift and drag factors.

Helicopter: Emergency Procedures. Part II: Emergency Procedures in the H-13 *(12 min., sd., b&w, 16 mm., Order No. TF 5102h, $22.25, USAF)* Demonstrates emergency procedures in case of blade stall, turbulence, loss of directional control, loss of fan belt, and mechanical failures.

Helicopter: Emergency Procedures. Part III: Emergency Procedures in the H-19 *(8 min., sd., b&w, 16 mm., Order No. TF1-5102i, $14.25, USAF)* Demonstrates emergency procedures such as recovery from stalls, settling with power, blade and serve stalls, and emergency landings. Explains techniques of ditching with passengers.

Helicopter: Emergency Procedures. Part IV: Emergency Procedures in the H-21 *(6 min., sd., b&w, 16 mm., Order No. TF 1-5102i, $11.00, USAF)* Demonstrates what to do in emergencies, including procedures to be employed in case of fire and ditching.

Helicopter Orientation: Introduction to Rotary Wing Flight *(27 min., sd., b&w, 16 mm., Order No. MN 7306-a, $47.00, USN)* Explains the history of helicopter development, the uses and versatility of the helicopter, and the basic aerodynamic principles as applied to helicopter flight. Uses animation to show the effect of density altitude and to illustrate aerodynamic principles.

Helicopter Orientation: Operation of the Single Main Rotor Helicopter *(19 min., sd., b&w, 16 mm., Order No. MN 7306-b, $33.75, USN)* Shows the procedure used in pre-flighting the helicopter from the pilots' viewpoint. Demonstrates how the controls are used in flight and the effects of applying the different controls. Illustrates starting the engine and shows procedures used in checking engine operation before take-off. Stresses location of, and proper indications of, all instruments. Shows how to secure the helicopter after flight.

Helicopter Orientation: The Basic Anatomy of the Helicopter *(15 min., sd., b&w, 16 mm., Order No. MN 7306-c, $27.00, USN)* Illustrates main component parts of the HTL-5 helicopter. Shows in animated diagrams the fuel, electrical, and basic flight-control systems.

Helicopter Special Delivery *(11 min., sd., b&w, 16 mm., Order No. MF 45-7945, $19.25, USA)* Portrays a river crossing effected through the use of a helicopter company, in which the "whirlybirds" not only delivery men, artillery, and ammunition, but also carry back the wounded.

Landbased Helicopter Operations: Functions *(10 min., sd., b&w, 16 mm., Order No. MN 7411-a, $17.50, USN)* Shows to helicopter pilots the many duties which they will be expected to perform in landbased helicopter operation, and points out the versatility of the helicopter.

Landbased Helicopter Operations: Precautions *(11 min., sd., b&w, 16 mm., Order No. MN 7411-b, $19.25, USN)* Stresses the need for pilot alertness in helicopter operation, and demonstrates night and rough-terrain operations.

Maintaining the HUP Service Type Helicopter: Rotor Systems and Related Controls *(16 min., sd., b&w, 16 mm., Order No. FN 7397-b, $28.50, USN)* Illustrates basic steps in the removal of rotor blades and hub, snubbers, flap restrainers, and dampers; and shows procedures for setting blade angle of incidence and checking control cable tensions.

A Place To Land *(20 min., sd., color, 16 mm., 1968, Order No. FA-709, $72.50, FAA)* Operation Metro Air Support, a two day exercise sponsored by FAA and State and municipal agencies in November 1966, demonstrates the ability of V/STOL aircraft and helicopters to provide air access and logistic support to a metropolitan center-city area in time of emergency. The film contains action shots of aircraft taking off and landing on streets, docks and parks, demonstrating the unique characteristics of helicopters the V/STOL aircraft. Cleared for TV.

Shipboard Helicopter Operations: Landing and Take-Offs *(7 min., sd., color, 16 mm., Order No. MN 7410-a, $24.50, USN)* Shows procedures to be followed in helicopter landings and take-offs during shipboard operations.

Shipboard Helicopter Operations: Functions *(8 min., sd., color, 16 mm., Order No. MN 7410-b, $27.75, USN)* Discusses the principal missions of the helicopter aboard ship: as plane guard, in rescue and during mail transfers.

HISTORY

The Air Force Story: The Beginning *(15 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-1, $27.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the role of airplanes in World War I. Cleared for TV.

The Air Force Story: After the War, 1918-1923 *(14 min., sd., b&w, 16mm., 1953, Order No. SFP 263-2, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the years 1918-1923. Cleared for TV.

The Air Force Story: Struggle for Recognition *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-3, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the years 1924-1930. Cleared for TV.

The Air Force Story: Between Wars, 1930-1935 *(13 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-4, $23.75, USAF)* Highlights in the history of the U.S. Air Force during the years 1930-1935. Cleared for TV.

The Air Force Story: Air Power Advances, 1935-1937 *(14 min., sd., b&w, 16 mm, 1953, Order No. SFP 263-5, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the years 1935-1937. Cleared for TV.

The Air Force Story: Prelude to War, 1937-1939 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-6, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the years 1937-1939. Cleared for TV.

The Air Force Story: The Air War Starts, 1939-1941 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-7, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the years 1939-1941, concluding with the Japanese attack on Pearl Harbor. Cleared for TV.

The Air Force Story: The Drawing of the Battle Lines, December 1941 to April 1942 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-8, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the period from December 1941 to April 1942, including Colonel Doolittle's bombing mission over Japan. Cleared for TV.

The Air Force Story: The AAF Fights Back, April-July 1942 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-9, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the period from April to July 1942, including the Battle of Midway. Cleared for TV.

The Air Force Story: The Tide Turns, June-December 1942 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-10, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the period from June to December 1942. Cleared for TV.

The Air Force Story: North Africa, November 1942-May 1943 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-11, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the period from November 1942 to May 1943, particularly its operations in North Africa. Cleared for TV.

The Air Force Story: Global Operations, 1943 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-12, $25.00, USAF)* Highlights in the history of the U.S. Air Force during 1943, including its operations against German submarines, the airlift over the Himalayas, and the Solomon Islands campaign. Cleared for TV.

The Air Force Story: Expanding Air Power, June 1943 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-13, $25.00, USAF)* Highlights in the history of the U.S. Air Force during June 1943, including its expanded training program and the bombing of the Island of Pantelleria. Cleared for TV.

The Air Force Story: Schweinfurt and Regensburg, August 1943 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-14, $25.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the bombing of Regensburg and Schweinfurt in August 1943. Cleared for TV.

The Air Force Story: Two Years of War, September-December 1943 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-15, $25.00, USAF)* Highlights in the history of the U.S. Air Force during the period from September to December 1943, particularly its operations in Burma, New Guinea, and Rabaul. Cleared for TV.

The Air Force Story: Maximum Effort, October 1943 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-16, $25.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the bombing of German war plants by the 8th Air Force. Cleared for TV.

The Air Force Story: Road to Rome, September 1943-June 1944 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-17, $25.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the operations of the 12th Air Force in Italy. Cleared for TV.

The Air Force Story: Prelude to Invasion, January-June 1944 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-18, $25.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the aerial attacks upon German factories, airdromes, and supply lines. Cleared for TV.

The Air Force Story: D-Day, June 1944 *(13 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-19, $23.75, USAF)* Highlights in the history of the U.S. Air Force, particularly its operations in the invasion of German-held Europe. Cleared for TV.

The Air Force Story: Ploesti, March-August 1944 *(14 min., sd., b&w, 16mm., 1953, Order No. SFP 263-20, $25.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the bombing of the Ploesti oil refineries by the 15th Air Force. Cleared for TV.

The Air Force Story: Superfort, August 1943-June 1944 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-21, $25.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the building of B-29 superforts and their bombing of Japan from air bases in China. Cleared for TV.

The Air Force Story: Victory in Europe, June 1944-May 1945 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-22, $25.00, USAF)* Highlights in the history of the U.S. Air Force, particularly the operations of the 8th Air Force in Europe. Cleared for TV.

The Air Force Story: Retreat and Advance, June 1944-March 1945 *(13 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-23, $23.75, USAF)* Highlights in the history of the U.S. Air Force, particularly the operations of the 5th, 7th, 13th, and 14th Air Forces in the recapture of the Philippines. Cleared for TV.

The Air Force Story: Air War Against Japan, 1944-1945 *(14 min., sd., b&w, 16 mm., 1953, Order No. SFP 263-24, $25.00, USAF)* Highlights in the history of the U.S. Air Force particularly the bombing of Japan, ending with the surrender of the Japanese. Cleared for TV.

The Air Force Story: A New Air Force, 1945-1947 *(14 min., sd., b&w, 16 mm., 1959, Order No. SFP 263-25, $25.00, USAF)* Highlights during the years 1945-47 in the history of the U.S. Air Force. Cleared for TV.

The Air Force Story: Cold War, 1948-1950 *(15 min., sd., b&w, 16 mm., 1959, Order No. 263-26, $27.00, USAF)* Highlights during the years 1948-50 in the history of the U.S. Air Force. Cleared for TV.

The Air Force Story: The Air Force and the Atom Bomb *(14 min., sd., b&w, 16mm., 1960, Order No. SFP 263 Vol-II-Chapter 1, $25.00, USAF)* Reviews the development of the atomic bomb in 1944, its effect in bringing World War II to a close, and the first extensive postwar atomic tests conducted at the Marshall Islands. Emphasizes the impact of the hydrogen bomb and shows how this new destructive force has changed the nature of warfare. Cleared for TV.

The Air Force Story: Meeting the Red Challenge *(14 min., sd., b&w, 16 mm., 1959, Order No. SFP 263 Vol-II-Chapter 2, $25.00, USAF)* Highlights events leading up to the Korean War, the communist invasion of South Korea, and the role of U.S. Air Power in stemming communist aggression in South Korea. Cleared for TV.

The Air Force Story: On to the Yalu, June 1950 *(15 min., sd., b&w, 16 mm., 1959, Order No. SFP 263 Vol-II-Chapter 3, $27.00, USAF)* Shows highlights of the Korean War during the summer of 1950 and explains the role of the Air Force in pushing the communist troops back to the Yalu River. Cleared for TV.

The Air Force Story: The Final Phase *(14 min., sd., b&w, 16 mm., 1960, Order No. SFP 263 Vol-II-Chapter 4, $25.00, USAF)* Shows how the U.S. Air Force, with superior tactical and logistical air support, played a large part in helping to end the Korean War. Cleared for TV.

The Air Force Story: Our World-Wide Air Force, 1953-1959 *(14 min., sd., b&w, 16 mm., 1961, Order No. SFP 263 Vol-II-Chapter 5, $25.00, USAF)* Shows how the continual buildup of Soviet military forces after World War II made necessary an all-out effort by U.S. Air Force to meet this challenge. Scenes covering Air Force activities from 1953-1959 show the development of the B-47 and B-52 aircraft, the creation of the North Atlantic Treaty Organization, the development of strategic and tactical missiles, and the growth of SAC's global strike force. Cleared for TV.

The Air Force Story: Entering the Era of Missiles *(15 min., sd., b&w., 16 mm., 1962, Order No. SFP 263 Vol-II-Chapter 6, $27.00, USAF)* Traces the beginning of modern missiles, showing "The Bug", our first guided missile, and discussing Dr. Goddard's pioneering work with liquid fuel, air-to-air missiles of WW II, and development of V-1 and V-2. Describes USAF postwar research and progress with portrayal also of Mighty Mouse, Falcon, and Genie; Matador and Mace; Snark and Bomarc; and test missiles, X-10 and X-17. Depicts capabilities of USAF arsenal with improved bombers B-47 and B-52, and with intermediate and long range missiles Thor and Atlas. Cleared for TV.

The Air Force Story: The Air Force Academy *(14 min., sd., b&w, 16 mm., 1962, Order No. SFP 263 Vol-II-Chapter 7, $25.00, USAF)* Follows the Academy's cadets through their four year training program which covers the sciences, humanities, leadership and airmanship. Also portrays intramural sports and campus social life. Cleared for TV.

The Air Force Story: Human Factors in Space Flight, 1950-1960 *(14 min., sd., b&w, 16 mm., 1963, Order No. SFP 263 Vol-II-Chapter 8, $25.00, USAF)* Documents 10 years of research to determine man's physical and physiological ability in space flight. Includes tests of G-forces, space suits, balloon flights and oxygen re-use equipment. Cleared for TV.

Air Force Tactical Firepower *(12 1/2 min., sd., b&w, 16 mm., 1963, Order No. SFP 1164, $23.00, USAF)* Flashbacks of tactical air power since World War I show how fighters and interceptors contributed significantly to Allied victories.

Bold Decisions *(27 min., sd., b&w, 16 mm., 1965, Order No. SFP 1254, $47.00, USAF)* Traces history of aviation from its beginning through major wars. Focuses primarily on contributions of great American leaders to the progress and development of aviation and to creation of a heritage of which the Air Force is proud. Cleared for TV (domestic).

The Fight for the Sky *(21 min., sd., b&w, 16 mm., 1965, Order No. SFP 1563, $37.00, USAF)* Documents heroism of American fighter pilots who flew escort missions over Germany during World War II. Footage of fierce air battles includes some captured German Film. Cleared for TV (domestic).

A Fighting Lady Speaks *(9 min., sd., b&w, 16 mm., 1950, Order No. MN 7283, $15.75, USN)* Dramatizes a typical day's activities of an aircraft carrier off the shores of Korea in 1950. Contains combat scenes Navy planes, fighters and bombers, on missions over Korea.

Medal of Honor—Ace of Aces *(5 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544a, $9.25, USAF)* Cites Captain Eddy Rickenbacker for his heroism as a WW I fighter pilot. Cleared for TV.

Medal of Honor—Burning Ploesti Oil *(7 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544c, $12.50, USAF)* Cites Col. John Kane and Col. Leon Johnson for bravery in Ploesti oil raids. Cleared for TV.

Medal of Honor—Pacific Ace *(5 min., sd., b&w, 16 mm., 1967, Order No. SFP 1554d, $9.25, USAF)* Cites Maj. Richard Bong for bringing down over 40 enemy aircrafts. Cleared for TV.

Medal of Honor—With One Hand *(4 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544f, $7.75, USAF)* Cites Lt. John C. Morgan who single handedly guided his plane to target during a WW II raid over Europe. Cleared for TV.

Medal of Honor—A Team Man *(5 min., sd., b&w, 16 mm., 1967, Order No. SFP 1554g, $9.25, USAF)* Cites Forrest Vosler for bravery and self-sacrifice while serving as a radio operator-air gunner on a mission over Bremen, Germany, in 1943. Cleared for TV.

Medal of Honor—One Man Air Force *(7 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544h, $12.50, USAF)* Cites Col. James H. Howard for his valor as a WW II fighter pilot. Cleared for TV.

Medal of Honor—Seven Down *(5 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544j, $9.25, USAF)* Cites Maj. William Shomo for downing seven WW II enemy aircraft. Cleared for TV.

Medal of Honor—Trial by Fire *(4 min., sd., b&w, 16 mm., 1966, Order No. SFP 1544k, $7.75, USAF)* Pays tribute to Sgt. Edward Erwin who ditched an ignited phosphorous bomb from his aircraft during a WW II raid over enemy territory. Cleared for TV.

Medal of Honor—Heading Home *(5 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544L, $9.25, USAF)* Cites Captain William R. Lawley for heroism and exceptional flying skill on a heavy bombardment mission over enemy occupied Europe. Cleared for TV.

Medal of Honor—America Strikes Back *(7 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544m, $12.50, USAF)* Cites Ren. James Doolittle for leadership in first air raid over Tokyo. Cleared for TV.

Medal of Honor—Only a Few Returned *(5 min., sd., b&w, 16 mm., 1967, Order No. SFP 1544n, $9.25, USAF)* Cites Sgt. Maynard Smith for his fearlessness as WW II B-17 Gunner. Cleared for TV.

Men with Wings *(14 min., sd., b&w, 16 mm., 1963, Order No. AFMR 620, $25.00, USAF)* Pictures courage and achievements of pilots whose efforts over the last half century have given aviation a rich heritage. Depicts rise of airpower brought about by heroism of fighter pilots and bomber crew in World Wars I and II and the Korean conflict that marked the beginning of the jet age.

Naval Aviation—A Personal History—The Weapon Is Conceived *(30 min., sd., b&w, 16 mm., Order No. MN 8414A, $52.00, USN)* This is the first of a series of films on Naval Aviation History. It depicts the development of naval aviation from its inception up to World War I. Pioneers of naval aviation discuss their problems in getting naval recognition of aircraft as a useful weapon in naval warfare.

Naval Aviation—A Personal History—The Weapon Is Tested *(28 min., b&w, 16 mm., Order No. MN 8414B, $48.75, USN)* This film depicts the development of naval aviation during World War I. Pioneers in naval aviation discuss their wartime experiences, emphasizing the problems and accomplishments marking the growth and combat testing of naval aviation in World War I.

Naval Aviation, A Personal History: The Weapon Is Developed *(30 min., sd., b&w, 16 mm., Order No. MN 8414-c, $52.00, USN)* A series of interviews with pioneers of U.S. naval aviation, with scenes covering its development during the period from 1918-1930.

Of Wings and Women *(15 min., sd., color, 16 mm., 1966, Order No. SFP 1226, $51.75, USAF)* Portrays history, contributions and traditions of the Women's Air Force. Points out the career opportunities available to eligible women and depicts educational, occupational and, social aspects of life as a WAF. Cleared for TV.

The Story of an Air Force Base *(10 min., sd., b&w, 16 mm., 1962, Order No. SFP 1150, $17.50, USAF)* Flashbacks portray air pioneers and aviation history as General Thomas D. White narrates colorful events linking Bolling AFB to growth and development of USAF.

The Story of Naval Aviation *(28 min., sd., b&w, 16 mm., Order No. MN 7969, $48.75, USN)* A history of the development of naval aviation in the U.S. Navy emphasizes the integration of aviation with other activities in fleet operation.

The Story of Naval Aviation *(27 min., sd., b&w, 16 mm., 1961, Order No. MN 9633, $47.00, USN)* The development of U.S. Naval aviation is traced from its earliest days to its modern day role as the primary striking weapon of the fleet. The first Trans-Atlantic flight and the first U.S. carrier landing are also depicted.

Toward the Unexplored *(26 min., sd., color, 16 mm., 1967, Order No. SFP 1385, $88.00, USAF)* Traces history of Muroc Dry Lake, Edwards AFB, California as an air proving ground and research center since the early days of aviation. Documents experiments in rocketry and with X-series, V-STOL and fixed wing aircraft. Points out Rocket propulsion laboratory's work in missile development. Cites Edwards' prominent position in USAF space age research. Cleared for TV.

Vandenberg—Aerospace City *(15 min., sd., color, 16 mm., 1963, Order No. SFP 1115, $51.75, USAF)* Traces the rapid growth and development of Vandenberg Air Force Base since 1954 as a prominent part of the USAF space team. Depicts planning and construction of the buildings and missile facilities and shows the modernness and magnitude of Vandenberg's profile as it appears today. Discusses its ideal geographical location for missile and space projects. Points out achievements in the Thor, Minuteman, Titan, and Agena programs. Cleared for TV.

World War I Overseas Fliers Reunion *(12 min., sd., color, 16 mm., 1962, Order No. SFP 1123, $42.00, USAF)* Reviews exploits of America's first fighter pilots as World War I airmen hold first reunion at USAF Museum at Wright-Patterson AFB. Features presentation of awards and excerpts of speeches. Cleared for TV.

INSPECTION AND MAINTENANCE

Aircraft Engines—Elements of Electricity as Applied to Ignition Systems *(28 min., sd., b&w, 16 mm., 1941, Order No. TF 1-136, $48.25, USAF)* Portrays elementary phenomena in electricity and magnetism and the application of these principles to engine ignition systems. Cleared for TV.

Aircraft Engine R3350-30W—Principles of Operation *(15 min., sd., b&w, 16 mm., Order No. FN-8032, $27.00, USN)* General engine description; carburetion and super-charging, low tension ignition, power conversion and recovery, lubrication and cooling systems.

The Aircraft Magneto: Theory and Operation of the Fourpole Magneto *(30 min., sd., b&w, 16 mm., Order No. TF 1-3638, $52.00, USAF)* Shows the relationship between the magneto and the airplane electrical system, and explains magnetism, magnetic flux, induction, Lenz's law, static and resultant flux.

Aircraft Tires and Tubes: Shop Inspection, Storage, and Disposition *(7 min., sd., b&w, 16 mm., Order No. TF 1-5106c, $12.50, USAF)* Shows a central tire shop where tires and tubes are rigidly inspected and checked for serviceability. Describes procedures for inspecting, testing, and storing tires and tubes.

Airplane Structures—Control Surfaces *(7 min., sd., b&w, 16 mm., 1943, Order No. TF 1-700, $12.50, USAF)* Describes construction and principles of operation of wing flaps, ailerons, elevator, rudder and trim tabs. Cleared for TV.

Flying in a Pressure Cabin *(20 min., sd., color, 16 mm., Order No. MN 9315, $68.25, USN)* Presents instructions concerning the proper operation of aircraft pressurization and air conditioning systems and emergency procedures to be followed in the event of a loss of cabin pressure.

Inspection of Plumbing and Piping *(17 min., sd., b&w, 16 mm., Order No. OE 147, $30.50, USOE)* How to inspect plumbing and piping in detail; verify the materials used; inspect installation of the part in the plane; and identify the different plumbing lines.

The Other Passenger *(28 min., sd., color 16 mm., 1965, Order No. FA-601, $101.50, FAA)* Surveys measures taken to insure safety in air travel. Shows a Federal Aviation Agency flight inspector who inspects a Braniff Flight from Dulles to Mexico City. Features in-the-cockpit scenes as well as emergency procedures practiced by all pilots. Cleared for TV.

Maintenance and Inspection of the Float and Pressure Type Carburetors *(28 min., sd., b&w, 16 mm., 1963, Order No. TF 46-3188, $48.75, USA)* Visual inspection and adjustment, removal and replacement of carburetors installed in Army aircraft.

Overhauling the Carburetor *(23 min., sd., b&w, 16 mm., Order No. OE 267, $40.50, USOE)* How to remove the carburetor assembly from the engine; disassemble, clean, inspect, and reassemble the carburetor; check the fuel level; and reinstall the carburetor assembly.

Plane Sense *(28 min., sd., color, 16 mm., 1968, Order No. FA-807, $101.50, FAA)* A film to acquaint and benefit the prospective pilot and airplane owner with the fundamentals of owning and operating an airplane. It offers hints about buying a used aircraft, outlines responsibilities in maintaining and recording the maintenance of the aircraft and engine, and shows how to keep abreast of current FAA regulations concerning the operation and maintenance of an airplane. Cleared for TV.

Turboprop/Turboshaft Engines: Introduction *(13 min., sd., color, 16 mm., Order No. MN 8812-a, $45.25, USN)* Outlines the theory of operations of turboprop and turboshaft engines with comparison to the turbojet engine. Shows testing and assembly of engine components in manufacture and the maintenance and operation of the engines.

The USAF Maintenance Management Improvement Program *(20 min., sd., b&w, 16 mm., Order No. SFP 541, $35.25, USAF)* Traces the processing of an emergency maintenance request by the Installations-Engineer Office of a typical air base to illustrate the maintenance management improvement program of the Air Force.

NAVIGATION

Aerial Navigation: Map Reading *(21 min., sd., b&w, 16 mm., Order No. TF 1-3460, $37.00, USAF)* Demonstrates the procedure to be followed by a navigator in charting the course of his aircraft.

Celestial Guidance for Fighter Pilots *(21 min., sd., b&w, 16 mm., Order No. TF 1-5120, $37.00, USAF)* Describes techniques and procedures necessary for a fighter pilot to determine his exact location and reach his destination with pin-point accuracy with only the stars to guide him. Explains mathematical and measuring procedures, course line and speed line, line of position, sextant reading, and the importance of posting correct time and similar information on celestial work-sheets. Shows a night celestial training mission of an F84F to illustrate pre-flight preparations and actual flight procedures.

Dead Reckoning: Air *(34 min., sd., b&w, 16 mm., Order No. MN 83-i, $58.75, USN)* Shows ground track, air track, wind effect, correction angle, drift angle, establishment of wind direction and velocity by both grid method and drift method. College level.

Doppler Navigation System AN/ASN-64 Operation *(31 min., sd., b&w, 16 mm., 1967, Order No. TF 11-3805, $53.50, USA)* Teaches pilots the features, capabilities and operation of the Doppler Navigation Set AN/ASN-64.

Grid Navigation: Application of Theory *(12 min., sd., b&w, 16 mm., Order No. TF 1-5227b, $22.25, USAF)* Shows in-flight procedures demonstrating the application of the grid navigation theory. Key points covered include the importance of the pacing diagram, the scheduling of the navigator's actions, communications between the pilot and navigator, and the transition from one chart to another.

Grid Navigation: Introduction and Theory *(12 min., sd., b&w, 16 mm., Order No. TF 1-5227a, $22.25, USAF)* Explains the basic factors of aerial navigation and the use of grid procedures in overcoming the problems of polar navigation. Covers special subjects including the use of the gyro, compensation for precession of the gyro, the earth's converging meridians, the grid overlay, and calculations of the Western and Eastern Hemispheres.

Ground Aids to Air Navigation: Ship to Shore *(19 min., sd., b&w, 16 mm., Order No. MN 6925-c, $33.75, USN)* Explains the theory and shows operation of TACAN (tactical air navigation).

Ground Controlled Approach of Aircraft: Operational Procedure *(38 min., sd., b&w, 16 mm., Order No. MN 6694, $65.25, USN)* Demonstrates the principles and operation of ground controlled approach (GCA) on the field and in a plane.

Ground Controlled Approach Equipment: Alignment of AN/CPN-4A *(13 min., sd., b&w, 16 mm., Order No. MN 8480-b, $23.75, USN)* Shows, by using the split-screen technique, both the adjustment and the scope pattern as alignment is accomplished in the system timing unit, the Coho amplifier, and the video switching unit.

Ground Controlled Approach Equipment: Siting *(11 min., sd., b&w, 16 mm., Order No. MN 8480-a, $19.25, USN)* Describes the siting and location of ground controlled approach equipment trailers at various runway locations on an airfield.

Integrated Landing Aids, Part I *(25 min., sd., color, 16 mm., Order No. MN 6613-a, $84.75, USN)* Explains the elements of GCA (ground control approach) and shows how an instrument landing is made under adverse weather conditions. Continued in part 2.

Integrated Landing Aids, Part II *(26 min., sd., color, 16 mm., Order No. MN 6613-b, $88.00, USN)* Covers landing aids at an airport, particularly high intensity lighting of approaches and runways and fog dispersal equipment. Continuation of part 1.

Low Level Air Navigation *(22 min., sd., color, 16 mm., Order No. MN 8917, $74.75, USN)* Demonstrates flight planning and flight techniques to be used by carrier attack pilots in the navigation portion of the low level attack mission. Shows how natural and man-made landmarks are selected and utilized in flight as checkpoints along the route flown. Follows a light carrier attack pilot through the flight planning and flying procedures of a simulated low level attack mission.

Operation Zero-Zero (Project Narrow Gauge) *(19 min., sd., color, 16 mm., Order No. FR 35, $65.00, USAF)* Shows how extensive testing of an integrated visual approach and landing aids systems (IVALA) can provide aviation with greater and safer aircraft landing capability.

Target Within Range: The Key Role of the USAF Navigator *(19 min., sd., color, 16 mm., Order No. SFP 633, $65.00, USAF)* Depicts the vital and diversified duties of the U.S. Air Force navigator.

Visual Flight Rules *(22 min., sd., color, 16 mm., Order No. MN 6914, $74.75, USN)* Explains and illustrates Civil Air Regulations part 60, as they apply to naval aviators while flying under VFR clearances.

Wind and the Navigator: Wind Theory *(15 min., sd., color, 16 mm., Order No. TF 1-5206a, $51.75, USAF)* Discusses the theory of wind forces and patterns, pressure gradient force, pressure surfaces, coriolis force, geostrophic winds, friction and centrifugal force.

Wind and the Navigator: Pre-Flight Planning *(15 min., sd., color, 16 mm., Order No. TF 1-5206b, $51.75, USAF)* Demonstrates how a wind flow chart, using weather data values and scales, is prepared, and shows how a flight path is determined.

Wind and the Navigator: In-Flight Analysis *(8 min., sd., color 16 mm., Order No. TF 1-5206c, $27.75, USAF)* Illustrates the navigator's duties while in flight, including determination of wind changes, drift causes, and flight path corrections.

Wind and the Navigator: Jet Streams *(15 min., sd., color, 16 mm., Order No. TF 1-5206d, $51.75, USAF)* Explains the high velocity wind currents, called jet streams, and shows how aircraft navigators save fuel and flight time through use of these forces. Discusses altitude velocity, seasonal changes, direction, and turbulence.

REPAIR

Army Aircraft Gas Turbine Engine Operation, Part I: Principles of Operation (*13 min., sd., b&w, 16 mm., Order No. TF 46-2985, $23.75, USA*) Explains the theory of operation of gas turbine engines. Uses animated drawings and the T53 engine to demonstrate the basic principles on which gas turbines operate, showing how the components work as the air and fuel flows pass through the engine.

Army Aircraft Gas Turbine Engine Operation, Part II: Controls and Instrumentation *(14 min., sd., b&w, 16 mm., Order No. TF 46-2986, $25.50, USA)* Describes the controls and instrumentation characteristic of Army aircraft equipped with gas turbine engines, using HU-1 (Iroquois) as a representative type for demonstration. Gives particular attention to gas compressor tachometer, exhaust gas temperature indicator, torque meter, fuel supply controls, and engine controls. Demonstrates the starting technique for turbine powered aircraft.

Army Aircraft Gas Turbine Engine Operation, Part III: Construction and Operation of the T-53 *(15 min., sd., b&w, 16 mm., Order No. TF 46-2987, $27.00, USA)* Describes the basic construction and operation of the T-53 gas turbine engine, including the four major sections of the engine and the four major accessory systems—fuel, anti-icing, electrical, and lubrication. Uses a cutaway of the engine to review the sequence of operation of the T-53.

Assembling in a Jig: Drilling and Riveting *(21 min., sd., b&w, 16 mm., Order No. OE 137, $37.00, USOE)* Drilling, burring, dimpling, and riveting an aircraft sheet metal assembly.

Assembling in a Jig: Fitting and Lining Up *(16 min., sd., 16 mm., Order No. OE 136, $28.50, USOE)* How aircraft sheet metal parts are assembled in a precision assembly jig; how to use an awl for lining up; use skin fasteners; and correct misaligned holes.

Blanking Sheet Metal on the Squaring Shear *(15 min., sd., b&w, 16 mm., Order No. OE 130, $27.00, USOE)* How to lay out tapered blanks on an aluminum sheet; set up a hand-operated squaring shear; use holddowns and treadle; and check and trim blanks.

Blanking Sheet Metal with Hand Snips *(18 min., sd., b&w, 16 mm., Order No. OE 131, $32.00, USOE)* How to cut along a straight line; cut an outside circle, a notch, an inside line; and remove burrs left by cutting.

Blanking with Rotary and High Speed Shears *(16 min., sd., b&w, 16 mm., Order No. OE 292, $28.50, USOE)* How to set up rotary and high-speed shears; make test cuts; and operate the shears for production runs.

Blanking with the Swing Arm Router *(17min., sd., b&w, 16 mm., Order No. OE 132, $30.50, USOE)* How to operate a swing-arm router; set up the work and template for routing; change router bits; rout internal and external contours.

Blind Riveting *(15 min., sd., b&w, 16 mm., Order No. OE 294, $27.00, USOE)* Necessity for blind riveting; how to rivet parts that are completely blind; and use special tools and rivets in blind riveting jobs.

Dimpling and Countersinking *(21 min., sd., b&w, 16 mm., Order No. OE 139, $37.00, USOE)* How dimpling and countersinking prepare metal for flush riveting; how to operate a dimpling machine; and countersink work for flush rivets.

Drilling with Portable Drill Motors *(17 min., sd., b&w, 16 mm., Order No. OE 138, $30.50, USOE)* How to use a portable electric drill motor; select a drill; insert the drill in a chuck; check the drill for true-running; and install and use a special attachment for drilling.

Driving and Bucking Rivets *(18 min., sd., b&w, 16 mm., Order No. OE 140, $32.00, USOE)* How to set up and adjust a rivet gun; drive and buck rivets; and how a riveter and a bucker work together as a team.

Filing Template Metal *(15 min., sd., b&w, 16 mm., Order No. OE 129, $27.00, USOE)* How to file a square edge and remove burrs; rotate the wrist for filing inside curves; file inside rectangle; and remove fillets from corners.

Finish Forming by Hand *(16 min., sd., b&w, 16 mm., Order No. OE 135, $28.50, USOE)* Successive stages of forming with a flat fibre strip; shrinking large wrinkles with a forming tool; marking excess metal with a surface gauge; and checking finished work with a contour template.

Forming on a Hand Operated Brake *(17 min., sd., b&w, 16 mm., Order No. OE 134, $30.50, USOE)* How to set up the brake for bend angle and bend radius; operate the brake; check test pieces and finished work.

Forming on Rotary Machines *(17 min., sd., b&w, 16 mm., Order No. OE 290, $30.50, USOE)* How to form sheet-metal parts on the slip-roll machine and on the beading-roll machine.

Forming with a Drop Hammer *(17 min., sd., b&w, 16 mm., Order No. OE 291, $30.50, USOE)* Purpose of drop hammer forming; how to operate the pneumatic hammer; set up the punch and die; handle a production run on a single-hit job; and use draw rings on a deep-draw job.

Forming with Rubber on the Hydraulic Press *(11 min., sd., b&w, 16 mm., Order No. OE 133, $19.25, USOE)* How sheet metal parts are formed with rubber on a hydraulic press; how to set up the work, and operate the press.

Inspection of Minor Assemblies *(16 min., sd., b&w, 16 mm., Order No. OE 146, $28.50, USOE)* How to inspect a minor assembly in detail; read rivet specifications; and inspect rivets.

Inspection of Sheet Metal Parts *(20 min., sd., b&w, 16 mm., Order No. OE 145, $35.25, USOE)* How to plan an inspection routine; inspect sheet metal parts in detail; make visual inspections and spot checks.

Making a Five Tuck Splice *(26 min., sd., b&w, 16 mm., Order No. OE 143, $45.50, USOE)* How to prepare the cable for splicing; make the first tuck and the four succeeding tucks; and taper, set serve, and shellac the splice.

Removing Defective Rivets *(15 min., sd., b&w, 16 mm., Order No. OE 141, $27.00, USOE)* How an inspector marks defective rivets; how to drill the heads of flush-type and brazier head rivets; and remove the shank and head after drilling.

Sawing Template Metal *(17 min., sd., b&w, 16 mm., Order No. OE 128, $30.50, USOE)* How to mount a saw blade on a band saw; select and adjust blade guides; saw to a layout line; "chew out" metal from a notch; and remove burrs.

Squeeze Riveting: Stationary and Portable Riveters *(15 min., sd., b&w, 16 mm., Order No. OE 293, $27.00, USOE)* How to select correct rivet sets for stationary and portable squeezers; set up and use the stationary squeezer and the portable squeezer.

Swaging Cable Terminals *(12 min., sd., b&w, 16 mm., Order No. OE 298, $22.50, USOE)* How to measure and mark the cable accurately; set up the swaging machine; check the terminals after swaging; and remove, clean, and reassemble parts of the machine.

Tube Bending by Hand *(15 min., sd., b&w, 16 mm., Order No. OE 142, $27.00, USOE)* Why tubes must be bent for installation in airplanes; how to set up the tube bending machine for the job; and how the various parts of the machine function.

Using a Portable Spray Gun *(26 min., sd., b&w, 16 mm., Order No. OE 289, $45.50, USOE)* How the pressure tank operates; how to clean portable spray guns; adjust paint, spray, and air controls; stroke while painting; and use the suction type spray gun.

RESEARCH AND DEVELOPMENT

Aerospace Technology *(12 1/2 min., sd., color, 16 mm., 1965, Order No. SFP 1492, $43.75, USAF)* Pictures development of space age devices. Shows cap pistol motor, counter-reaction wrench, meteor-resistant hypervelocity materials, electrostatic gyro, parabolic mirror, and portable radar unit. Cleared for TV (domestic use only).

The Aircraft Called Seventy *(31 min., sd., color, 16 mm., 1965, Order No. SFP 1158, $104.25, USAF)* Reviews pilot preparation and maiden fight of XB-70. Highlights development and construction of unique features such as stainless steel skin and folding wing tips. Cleared for TV.

Air Force Logistics Command Log 1966 *(22 min., sd., color, 16 mm., 1967, Order No. SFP 1577, $74.75, USAF)* Features achievements in ballistic missile engineering test facilities, computerized jet engine testing and combustion chamber salvaging. Prime Beef program, transportation, maintenance and supply. Highlights logistical support to Air Force activities in Southeast Asia. Cleared for TV.

All Weather Testing of Aeronautical Systems *(17 min., sd., color, 16 mm., 1965, Order No. FR 497, $58.50, USAF)* Describes tests conducted in deserts, polar regions, and in other extremes of temperature and atmospheric conditions to determine aircraft systems reliability. Cleared for TV.

Breakthrough—Search for Knowledge *(20 min., sd., color, 16 mm., 1964, Order No. SFP 1225, $68.25, USAF)* Reports on the Air Force's basic research program and its contributions to the space program. Illustrates how this program, under the jurisdiction of the Office of Aerospace Research, provides an endless source of knowledge to further our space efforts and to insure our national security and aerospace supremacy. Cleared for TV.

Design for Environment *(34 min., sd., color, 16 mm., Order No. SFP 385, $114.25, USAF)* Portrays a young scientist learning of the numerous tests conducted at air development centers to determine the effects of environmental stresses on materials, metals, electrical equipment, etc.

The DOD Joint Parachute Test Facility *(19 min., sd., color, 16 mm., 1967, Order No. SFP 1357, $65.00, USAF)* Shows Air Force-Navy combined parachute testing facilities at El Centro, California, where new ideas in air drops and recovery systems are tested. Explains how huge canopies are rigged, repaired, modified, inspected and tested for tensile strength and flight capability. Depicts experiments in helicopter capsular escape systems. Also covers electronic and photographic tracking of air drops and processing and compiling of vital data. Cleared for TV.

Intercept *(10 min., sd., color, 16 mm., 1959, Order No. SFP 657, $34.00, USAF)* Highlights the computer phase of the SAGE-Bomarc program from initial planning to integration of Bomarc into the SAGE system. Cleared for TV.

L. T. A. History: Balloons *(27 min., sd., b&w, 16 mm., Order No. MN 2722-a, $47.00, USN)* Traces the history of balloon experimentation: covering problems, development, outstanding men, and modern uses of balloons.

Man in Flight *(19 min., sd., color, 16 mm., Order No. TF 1-5371, $65.00, USAF)* Depicts the research being carried on at the School of Aviation Medicine, Brooks Air Force Base, Texas, to insure man's comfort and safety in flight. Discusses what science is doing to resolve biological problems and alleviate the emotional stresses which man will encounter when he ventures into space. Shows the intensive training conducted for U.S. Air Force Medical Service officers and airmen and medical personnel of allied nations.

Materials: Key to Progress *(17 min., sd., color, 16 mm., Order No. SFP 530, $58.50, USAF)* Describes the overall technical mission of the USAF Materials Research and Development Program and emphasizes the important contributions of industry and science to its progress.

Military Satellite Communications *(25 min., sd., color, 16 mm., 1966, Order No. SFP 1336, $84.75, USAF)* Compares military advantages of satellite communications to conventional methods. Discusses various types of present and future communications satellites and explains their operation characteristics, design factors and potential applications. Stresses need for continued research and development in satellite communications. Cleared for TV.

A New Line of Sight *(16 min., sd., color, 16 mm., 1962, Order No. FR 229, $55.00, USAF)* Reviews USAF research and development achievements since 1954 in missiles, satellites, re-entry projects, aerospace medicine activities and other vital space efforts. Cleared for TV.

Pipeline to Tomorrow *(17 min., sd., b&w, 16 mm., Order No. SFP 460, $30.50, USAF)* Shows how the Air Materiel Command keeps pace with the requirements of the Air Research and Development Command, and describes the mission of each ARDC center.

A Plane Is Born *(27 min., sd., color, 16 mm., 1968, Order No. FA-602, $98.00 , FAA)* The film describes how FAA works with manufacturers in the design, manufacture and certification of new aircraft. Featured in the motion picture are wind tunnel experiments, manufacturing process and test flights of the Douglas DC-9 and the Boeing 727. Cleared for TV.

Project Slush *(21 min., sd., color, 16 mm., 1963, Order No. FA-217, $75.50, FAA)* A film report of tests conducted at NAFEC using the 880 jet aircraft to determine the effects of slush on jet aircraft in acceleration for takeoff. Cleared for TV.

Search for Silence *(15 min., sd., b&w, 16 mm., Order No. MN 8958, $27.00, USN)* Explains what the Navy is doing to curb the noise of jet aircraft around Naval air stations and follows a Naval aviator as he points up the salient features of the Navy's noise-abatement program. Emphasizes Navy-community cooperation in solving jet noise problems generated by field carrier landing practice, low level air navigation training, and sonic boom.

Slow-Speed Flight Characteristics of Swept-Wing Aircraft *(18 min., sd., b&w, 16 mm., Order No. MN 8617, $32.00)* Shows how slow-speed flight affects the flow of the air over swept-wing aircraft and how a stall originates at the wing tips instead of at the wing roots as in conventional wing aircraft.

USAF Flight Test School *(19 min., sd., color, 16 mm., Order No. SFP 419, $65.00, USAF)* Describes enrollment prerequisites, curriculum, and objectives of the USAF Flight Test School, and Air Research and Development Command activity at Edwards AFB, California.

SEARCH AND RESCUE

The Air Rescue Service *(10 min., sd., color, 16 mm., 1961, Order No. SFP 1085, $34.00, USAF)* Defines the role and global mission of MATS Air Rescue Service which stands ready to act in emergencies.

Deep Sea Survival *(27 min., sd., color, 16 mm., Order No. TF 1-5252, $91.25, USAF)* Portrays through dramatized incidents some of the conditions faced by a crew of airmen who are ditched in tropical water and survive 20 days on a raft before they are rescued.

Ditching Techniques for Transport Aircraft: Communications, Sea Evaluation, Headings, and Landings *(26 min., sd., color, 16 mm., Order No. TF 1-5271a, $88.00, USAF)* Outlines steps to minimize hazards of ditching when a forced landing is anticipated at sea. Major teaching points include transmission of distress calls, evaluation of sea conditions, procedures for landing, and methods of obtaining proper headings.

Ditching Techniques for Transport Aircraft: Preparation and Evacuation for Aircrew *(15 min., sd., color, 16 mm., Order No. TF 1-5271b, $51.75, USAF)* Demonstrates preparations and procedures for safe evacuation of transport passengers over open sea. Covers inflight checks, precautionary measures before touchdown, and procedures after touchdown. Describes rules to follow for orientation of passengers, such as fastening safety belts, donning life jackets, operating safety hatches, and boarding life rafts.

Escape and Survival System *(22 min., sd., color, 16 mm., 1960, Order No. TF 1-5357, $74.75, USAF)* Familiarizes pilots and escape system maintenance personnel with the operational principles of the F-106 upward ejection system. Demonstrates how correct operation of the system guarantees survival in a supersonic ejection.

Helicopter Rescue at Sea *(21 min., sd., color, 16 mm., Order No. MN 8760-a, $71.50, USN)* Describes how a survivor by knowing what to do, can cooperate in his own rescue by helicopter.

Help Available *(21 min., sd., b&w, 16 mm., Order No. SFP 330, $37.00, USAF)* Reviews the training of SA-16 pilots at Albrook Air Force Base in Panama in wet ditch drilling, use of rubber rafts, Mae Wests, survival kits, and living in the jungle; and recreates a rescue of a South American plane forced down in the Panama jungle.

Jungle Survival *(36 min., sd., color, 16 mm., Order No. TF 1-5111, $120.75, USAF)* Shows various types of jungles and describes characteristics of rain and cloud forests, savannas, and swamps; and demonstrates rules to be followed for jungle survival.

Know Your Air Rescue Service *(31 min., sd., b&w, 16 mm., Order No. TF 1-4968, $53.50, USAF)* Illustrates four phases of rescue operations—notification, search, aid, and rescue—and explains the work of the U.S. Air Rescue Service.

Mountain and Desert Survival—Desert Survival *(31 min., sd., color, 16 mm., 1963, Order No. TF 5571b, $104.25, USAF)* Outlines principles of desert survival. Shows procedures for promoting rescue and maintaining personal health and comfort. Points out sources of food and water, explains shelter construction and discusses use of signal fires and mirror. Emphasizes importance of calmness and clear thinking. Demonstrates the tragedy that can result from fear and panic. Cleared for TV.

Navy Screen Highlights—Search and Rescue *(14 min., sd., color, 16 mm., Order No. MN-8984Y, $48.50, USN)* Depicts the role played by ships and aircraft of the Navy's search and rescue forces in authentic photography of a rescue of a downed pilot near enemy-held territory.

Pararescue—Its Role in the Space Age *(24 min., sd., color, 16 mm., 1965, Order No. SFP 1261, $81.50, USAF)* Portrays vigorous and important role of Air Rescue Service pararescue teams. Depicts rigorous physical and mental training that prepares air men for pararescue service in any environment. Follows progress of trainees through advanced first aid, combat survival, paratroop school, and scuba training. Cleared for TV.

Pilot Emergency Escape Survival System of the F/TF-102A *(25 min., sd., color, 16 mm., Order No. TF 1-5282, $84.75, USAF)* Describes the global survival kit and explains the operational principles of the pilot ejection system. Also covers pre-flight checks, A-13 mask, partial pressure suit, emergency oxygen supply, and descent techniques.

SAR Mission Coordinator—Search and Rescue *(27 min., sd., color, 16 mm., 1966, Order No. SFP 1175b, $91.25, USAF)* Shows how the Air Force Search and Rescue (SAR) mission co-ordinator organizes and conducts a typical inland search mission. Depicts instruction of search crews on types of flight patterns, and areas to be covered. Follows the mission through to a successful rescue. Cleared for TV.

Search and Rescue Scanning and Sighting Techniques *(7 min., sd., color, 16 mm., 1960, Order No. TF 1-5362, $24.50, USAF)* Shows the proper method for systematic scanning and sighting during search operations. Describes fixation points, clock systems and reference points.

Search Operations *(29 min., sd., b&w, 16 mm., 1961, Order No. SFP 1039, $50.75, USAF)* Dramatizes a typical missing aircraft incident to demonstrate systematic search and rescue operations conducted according to the National Search and Rescue Plan and the National Search and Rescue Agreement.

Survival in North Temperate Regions—Living Off the Land *(14 min., sd., color, 16 mm., Order No. FN 9202A, $48.50, USN)* How to survive under emergency conditions in north temperate regions.

Survival Stresses *(30 min., sd., color, 16 mm., 1961, Order No. TF 1-5375, $101.00, USAF)* Discusses major physiological and psychological stresses that may be encountered by persons facing a survival situation in the Arctic, on the desert, in the tropics and on water. Describes methods of detecting, understanding and combating such stresses as hunger, thirst, cold, fatigue, fear and how to recognize and avoid dehydration.

That Others May Live—The Mission of the Air Rescue Service *(22 min., sd., color, 16 mm., 1963, Order No. SFP 1089, $74.75, USAF)* Bob Considine narrates. Shows ARS's capabilities and dedication to air rescue, plus its ability to perform in the space age.

Tropic Seacoast Survival *(23 min., sd., color, 16 mm., 1961, Order No. TF 1-5376, $78.25, USAF)* Explains the teaching procedures and techniques to be followed for survival along tropical seacoasts.

BUSINESS

CONTRACTS

Contract Negotiation Techniques *(30 min., sd., b&w, 16 mm., Order No. TF 1-5223, $52.00, USAF)* Demonstrates both correct and incorrect techniques for conducting contract negotiations with representatives of industry, and stresses the importance of the procurement team's need for advance study and data.

Defense Procurement—Competitive Negotiation *(40 min., sd., b&w, 16 mm., Order No. TF 38-2865, $68.50, USA)* Principles, regulations, requirements and provisions related to procurement by negotiation—processing procurement directive, requirements for proposal, conduct of negotiation, and contract award.

Defense Procurement—Contract Administration *(26 min., sd., b&w, 16 mm., Order No. TF 38-2866, $45.50, USA)* Scope and provision for contract administration in defense procurement—duties of contracting officer and his staff during pre-production, production, engineering changes, and final price determination stage.

Defense Procurement—Formal Advertising *(43 min., sd., b&w, 16 mm., Order No. TF 38-2864, $73.25, USA)* Principles, regulations, general requirements, and procedures related to procurement by formal advertising—preparation, distribution, opening and evaluation of bids, and award of contract.

How To Live with an Air Force Contract *(19 min., sd., color, 16 mm., Order No. SFP 404, $65.00, USAF)* Explains the AMC field procurement and production mission as a small manufacturing concern is awarded its first Air Force contract, and shows how specialists in the field of production visit the company to assist in solving problems and completing the contract.

Procurement Source Selection *(20 min., sd., color, 16 mm., 1967, Order No. MF 38-5154, $68.25, USA)* Explains how the Defense Department and the Army select the source from which a major procurement will be obtained.

DATA PROCESSING

Command and Control *(18 min., sd., color, 16 mm., 1965, Order No. SFP 1345, $61.75, USAF)* Defines the 473L data processing concept in giving speed and accuracy to Air Force command and control. Describes outdated manual method of solving high level problems and emphasizes need for an electronic approach to coping with today's world crises. Simulates a sudden brush war to demonstrate 473L capability in answering questions on weather, personnel, communications, weapon systems, medical facilities, etc. Cleared for TV.

Digital Computer Technique: Introduction *(16 min., sd., color, 16 mm., 1962, Order No. MN 8969A, $55.00, USN)* Provides a general introduction to digital computers; explains the historical origins of calculating devices; points out the differences between analog and digital computers, discussing the principal steps involved in the solution of problems subjected to the digital computing process.

Digital Computer Technique: Computer Logic *(13 min., sd., color, 16 mm., 1962, Order No. MN 8969B, $45.25, USN)* Explains by means of animation the binary number system, defines the several meanings of logic as applied to computers, shows the difference between the decimal and binary number systems, explains how binary numbers are constructed and how arithmetical operations are performed with them. Cites examples of code variations of the binary system.

Digital Computer Techniques: Computer Logic Symbology *(15 min., sd., color, 16 mm., 1962, Order No. MN 8969C, $51.75, USN)* Shows the basic U.S. Military standard symbols of the logic elements of computers as an introduction to digital computer logic symbology; shows their function in electronic signals.

Digital Computer Techniques: Computer Units *(24 min., sd., color, 16 mm., 1962, Order No. MN 8969D, $81.50, USN)* Discusses in an introductory way the major units of a digital computer: input, output, arithmetic, and control.

Digital Computer Techniques: Logic Element Circuits *(16 min., sd., color, 16 mm., 1962, Order No. MN 8969E, $55.00, USN)* Illustrates how solid state electronics are used in modern computers.

Digital Computer Techniques: Programming *(14 min., sd., color, 16 mm., 1962, Order No. MN 8969F, $48.50, USN)* Defines computer programming, explains what is meant by analyzing the problem, shows how a simple flow chart is prepared with symbols giving their meaning, and shows by use of a simple example how instructions to the computer are encoded in computer language.

Engineering Data Management *(11 min., sd., color, 16 mm., 1966, Order No. SFP 1483, $37.25, USAF)* Describes program developed by Air Force Logistics Command for obtaining necessary engineering data about Air Force weapon systems. Shows how the contractor provides such information direct to the user. Explains advantages of the program to both contractor and Air Force. Also discusses priorities of requests for information and necessary controls. Cleared for TV.

Introduction to Automatic Data Processing *(31 min., sd., b&w, 16 mm., Order No. TF 11-2552, $53.50, USA)* Discusses the automatic data processing system (ADPS), explaining its underlying concept, capabilities, operation, and application as a new management tool. Shows several systems currently in use in Government installations-electric accounting machines, Remington Rand UNIVAC system, RCA BIZMAC system, Underwood ELECOM, Burroughs DATARON system. Using animation analyzes the features, operation, and functional components of ADPS, giving attention to communication networks, input and output devices, and the central processing unit consisting of the internal control section memory section, and arithmetic and logic section. A simple problem is processed for demonstration purposes.

MOBIDIC Joins the Field Army *(16 min., sd., color, 16 mm., 1962, Order No. MF 11-9662, $55.00, USA)* Story of the development, application, and operations of MOBIDIC, the first large scale electronic computer designed for field use. The future potential of electronic computers for tactical application is underscored.

Modern Manufacturing—Command Performance *(33 min., sd., color, 16 mm., 1963, Order No. SFP 1153, $110.75, USAF)* Illustrates the need for using modern methods in the production of aerospace vehicles and depicts many of the latest manufacturing techniques. Explains that the use of automation from programming to finished product can supersede conventional methods in speed, reliability, and economy. Shows electronically controlled machinery which operates solely on commands from numerical computer tapes and performs tasks with precision and accuracy. Emphasizes the importance of modernization in the production of Air Force space system. Cleared for TV.

The Story of Air Force Logistics Management—Weapons Go *(28 min., sd., color, 16 mm., 1966, Order No. SFP 1331, $94.50, USAF)* Outlines missions and organization of Air Force Logistics Command's air material areas and responsibilities of area logistics managers. Portrays systems management support team in action with close-up of planning, programming and support operations. Discusses computer use for circuit analysis, systems failure diagnosis and replacement component control. Cleared for TV.

ECONOMY AND CONSERVATION

Cost Reduction—Everybody's Job *(15 min., sd., color, 16 mm., 1964, Order No. SFP 1265, $51.75, USAF)* Delineates objectives of the Air Force Cost Reduction Program and stresses each individual's responsibilities on their achievement. Emphasizes importance of participating in the Air Force incentive awards program and portrays role of the resident auditor in validating saving resulting from suggestions. Explains rules for minimizing purchase investments and operating costs. Cleared for TV.

Cost Reduction Is a Money Splendid Thing *(25 min., sd., color, 16 mm., 1967, Order No. MF 20-5186, $84.75, USA)* The importance, implementation, and success of the AMC Cost Reduction Program is examined by Mr. I. Berg, Director.

Design for Survival *(23 min., sd., b&w, 16 mm., Order No. MF 38-7951, $40.50, USA)* Discusses the availability and uses of critical raw materials emphasizing the need to create and strengthen a positive attitude towards conservation among those concerned with the design, planning, manufacture, and purchase of military equipment.

The Story of the Military Aircraft Storage and Disposition Center—Desert Bonanza *(16 min., sd., color, 16 mm., 1966, Order No. SFP 1411, $55.00, USAF)* Depicts the mission of the Military Aircraft Storage and Disposition Center at Davis-Monthan Base, Arizona. Shows how aircraft no longer needed in active inventory are processed for storage and reclamation of parts. Cites the large annual savings realized in the salvage or possible re-use of retired aircraft. Cleared for TV.

Value Engineering: The Hundred Million Dollar Story *(28 min., sd., color, 16 mm., 1963, Order No. SFP 1174, $94.50, USAF)* The story of the latest Air Force economy concept: a savings of millions of dollars in aircraft, missile cost.

Zero Defects—Right the First Time *(22 min., sd., color, 16 mm., 1966, Order No. SFP 1554, $74.74, USAF)* Explains purpose of the Zero Defects program. Emphasizes responsiblity of each individual to do his job right the first time. Depicts how errors result from inadequate equipment and experience and wrong attitudes. Cleared for TV.

AFLC Zero Defects Story *(16 min., sd., color, 16 mm., 1966, Order No. TF 5903, $55.00, USAF)* Familiarizes Air Force Logistics Command (AFLC) employees with the Zero Defects Program. Cites examples of AFLC error-free work and evaluates benefits of program to national defense. Describes supervisor's role, use of Cause and Removal of Error (CARE) form, and awards for top quality performance. Cleared for TV.

MANAGEMENT

Accounting and Finance—Serving You Right *(20 min., sd., color, 16 mm., 1963, Order No. TF 5444, $68.25, USAF)* Outlines functions of the Air Force Accounting and Finance Center in providing world-wide financial support for all levels of Air Force activities. Pictures accounting and finance services in the areas of commerce, material, travel, civilian and military pay, disbursing and collecting and accounts control. Shows how the Center functions in conducting internal operations and maintaining financial control over air bases and major commands. Cleared for TV.

Breakthrough to Progress *(25 min., sd., b&w, 16 mm., 1962, Order No. SFP 1091, $43.75, USAF)* Plant manager Walter Britt, aggressive but idea-resistant, learns the value of employee suggestions when serious operational problems bog down production schedules. Cleared for TV.

Effective Briefing *(24 min., sd., color, 16 mm., 1960, Order No. TF 1-5332, $81.50, USAF)* Shows how to plan, organize, prepare, rehearse and deliver staff and command briefings. Stresses accuracy, brevity and clarity in communications.

Management Concepts for Depot Maintenance *(32 min., sd., b&w, 16 mm., 1963, Order No. FTA 577, $55.25, USAF)* Describes four major systems in USAF maintenance management structure and outlines their functions in supporting operation of depot maintenance shops. Directs attention to reports, summaries, and charts and shows how these devices are used to control labor, production, and cost. Cleared for TV.

Management Improvement: It's Your Business *(26 min., sd., color, 16 mm., Order No. MN 8725, $88.00, USN)* Shows through the use of animation, that good management means effective use of men, money, materials, and facilities.

Over Your Signature: Position Classification *(19 min., sd., b&w, 16 mm., 1961, Order No. TF 1-5346, $33.75, USAF)* A review of the Classification Act of 1949 and the National Security Act of 1947. Gives a step-by-step procedure for classifying a new position and reclassifying an existing position.

Performance Evaluation *(26 min., sd., b&w, 16 mm., 1960, Order No. SFP 673, $45.50, USAF)* Teaches supervisors of AF civilian employees the importance of frequent, conscientious performance discussions with subordinates.

Pert—Milestone System—Pert Introduction *(27 min., sd., color, 16 mm., Order No. MN 9704A, $91.25, USN)* Brings management and operating levels together for the planning and execution of complex research and development projects.

PERT—Cost *(28 min., sd., color, 16 mm., Order No. MN 9704B, $94.50, USN)* Introduction, using example of annual vacation. Steps and aspects of system and forms used.

MATERIALS HANDLING

Crane Operations: Floating Cranes *(16 min., sd., b&w, 16 mm., Order No. MN 8076-a, $28.50, USN)* Gives basic rules for operating the floating crane efficiently. Shows proper positioning and tieing, securing the load to the hook, proper methods in hoisting heavy loads, safety precautions, rotating problems, landing the load, and operating the crane by using combined operations.

Crane Operations: Safety Precautions *(14 min., sd., b&w, 16 mm., Order No., MN 8076-b, $25.50, USN)* Shows procedures and rules to be followed in the safe operation of mobile cranes.

Drafts and Slings *(16 min., sd., b&w, 16 mm., Order No. TF 55-1117, $28.50, USA)* Shows how to use sling or cargo net, pallet sling, and pie plate in handling cargo from docks and warehouses to holds.

Expedients *(14 min., sd., b&w, 16 mm., Order No. TF 55-1551, $25.50, USA)* Demonstrates methods which can be used as expedients for the temporary repair of dead winches, damaged cargo booms, and other shipboard cargo handling equipment.

Loads & Loading of General Transport Vehicles *(18 min., sd., b&w, 16 mm., 1954, Order No. TF 55-1918, $32.00, USA)* Shows characteristics of the five types of military cargo transported via vehicle and the prescribed loading procedures for each. Emphasis is on maximum authorized load, proper vehicle for given load, and safety precautions.

Materials Handling Equipment Operation: Gantry Truck and Warehouse Cranes *(21 min., sd., b&w, 16 mm., Order No. MN 7285-b, $37.00, USN)* Shows the uses and operations of Gantry truck and warehouse cranes, and discusses safety precautions.

Material Handling Methods in U.S. Air Force Depots *(25 min., sd., b&w, 16 mm., 1943, Order No. TF 1-4126, $43.75, USAF)* Shows and explains methods of handling and moving material in USAF storage depots. Cleared for TV.

Material Handling Principles in Transportation *(20 min., sd., b&w, 16 mm., 1960, Order No. SFP 1017, $35.25, USAF)* Shows the waste of money, time and man-hours when material handling and loading practices are faulty. Demonstrates, from shipping to receiving, the right and wrong ways to handle military cargo; emphasizes the importance of using the right equipment to transport items.

Slinging Load *(17 min., sd., b&w, 16 mm., Order No. MN 2340-d, $30.50, USN)* Shows how to rig and use slings to handle various types of loads; and explains safety precautions to be observed.

Straps and Transportation Bridles *(15 min., sd., b&w, 16 mm., Order No. TF 55-1118, $27.00, USA)* Shows how to attach straps and bridles to various types of draughts, handle in vertical position, and use dunnage properly.

Vehicle Loading and Stowing *(15 min. sd., b&w, 16 mm., Order No. TF 55-1119, $27.00, USA)* Shows how to load jeeps, trucks, tanks, and locomotives aboard ship; how to use nets, straps and dunnage for lifting; and soap, grease, and blocks in stowing vehicles.

QUALITY CONTROL

Air Force Non-Destructive Testing *(28 1/2 min., sd., color, 16 mm., 1958, Order No. TF 1-5226, $94.50, USAF)* Stresses importance of quality control inspections and explains various defects and their causes. Inspection methods demonstrated include magnetic particle, fluorescent, penetrant, X-ray and ultra-sonic.

Quality Control: A Management Tool *(21 min., sd., color, 16 mm., Order No. SFP 616, $71.50, USAF)* Highlights various quality control operations in depots, industrial plants, and air commands and shows how integrated teamwork helps maintain a constant high degree of perfection in aircraft and missile components.

SUPPLY

Base Procurement *(22 min., sd., b&w, 16 mm., Order No. TF 1-5224, $38.50, USAF)* Describes the functions of a base procurement office, and explains the forms and procedures for obtaining needed supplies through this office and how contracts are negotiated with civilian firms.

History of the U.S. Navy Supply Corps *(14 min., sd., color, 16 mm., Order No. FN 8135, $48.50, USN)* Traces the activities and contributions of the U.S. Navy Supply Corps from 1795 to the present time.

Hi-Valu and You *(18 min., sd., color, 16 mm., 1961, Order No. SFP 1029, $61.75, USAF)* Explains the hi-valu program within the Air Force supply system for the special handling, and exacting inventory control of vital costly items.

Management Concepts of Depot Maintenance *(32 min., sd., b&w 16 mm., Order No. SFP 480, $55.25, USAF)* Explains the principles of the maintenance engineering management program developed by the Air Materiel Command to insure effective control of resources and production.

The Supply Manager's Dilemma *(19 min., sd., color, 16 mm., Order No. MN 9460, $65.00, USN)* Describes the influence of order costs, holding costs, shortages, and other factors in determining supply management policies.

Why Calibrate *(16 min., sd., color, 16 mm., Order No. MN 10105, $55.00, USN)* Demonstrates the need for calibrating test and monitoring equipment and shows how the U.S. Navy's calibration program is organized.

TECHNIQUES AND SYSTEMS

The Air Force Heavy Press Program *(26 min., sd., b&w, 16 mm., Order No. SFP 389, $45.50, USAF)* Describes the development and use of heavy press programs since World War II; the construction of the enormous plants; and various forging and extrusion processes.

The Air Force Technical Order System *(19 min., sd., b&w, 16 mm., Order No. TF 1-5105, $33.75, USAF)* Explains the U.S. Air Force technical order system, including a library of some 35,000 technical manuals, how they are filed, and how to find the manual needed for a specific job.

The Engineered Performance Standards Program *(16 min., sd., b&w, 16 mm., Order No. MN 7837, $28.50, USN)* Explains the engineered performance standards program and its benefits to workers and to management at U.S. Naval Air Stations.

Engineering Documentation for Uniform Requirements *(25 min., sd., colgr, 16 mm., Order No. MF 20-9313, $84.75, USA)* A graphic presentation of the development of standardization conceptions for an overall engineering drawing area. Traces the reasons behind a standardization concept and portrays a history of events leading to its successful completion. Illustrates the difficulties surrounding such projects and gives insight into the machinery used to bring the military and industry to an agreement on a basic document for the procurement of engineering drawings by the military from contractors.

The Flow Process Chart and How to Use It *(15 min., sd., color, 16 mm., $51.75,OSRD)* Shows the use of a flow process chart in the study and application of work simplification, the meaning of the symbols used on such a chart, and the use of the chart in analyzing the relatively simple job of shaving.

Mainstay of the Mails *(13 min., sd., color, 16 mm., $45.25, USPO)* A tribute to the Postal maintenance employees. The film shows the complexity and importance of maintaining the equipment and buildings of today's postal system; excellent photography of the latest mechanization equipment; and stresses the need for highly skilled maintenance employees.

Naval Shipyards Serve the Fleet *(13 min., sd., color, 16 mm., Order No. MN 7479, $45.25, USN)* Explains the organization and activities of naval shipyards; the contribution each shop in the shipyard makes toward the maintenance, repair, and overhaul of ships; and the importance of naval shipyards to the operating efficiency of the fleet.

Optical Production Methods *(31 min., sd., b&w, 16 mm., Order No. MN 2449-o, $53.50, USN)* Describes organization and administration of an optical production shop on a mass production scale, including plant layout, training of personnel, need for inspection, classification of rejects, etc.

The Postal Source Data System *(17 1/2 min., sd., color, 16 mm., $60.00, USPO)* Portrays how the Post Office Department had applied one of the marvels of this electronic age to benefit the mail service. Explains why the Department found it necessary to install "the largest computer system of its kind" and depicts what the equipment will do. Stresses that the system will not replace employees but rather will greatly aid in helping employees to do a better job. Photographed in a contemporary manner with upbeat musical background, the film is both interesting and informative.

Standardization *(19 min., sd., b&w, 16 mm., Order No. MN 8084, $33.75, USN)* Explains the basic concepts and benefits of standards and the standardization process. Sets forth broad principles for an effective approach to standardization problems, whether local or international in scope.

Standardization: Engineering Planning *(14 min., sd., color, 16 mm., Order No. FN 8084-b, $48.50, USN)* Shows an analysis of the type of engineering and technical work which is necessary on a planned basis to achieve standardization objectives in large and complicated technical areas.

Principles of Paperwork Management *(13 min., sd., color, 16 mm., Order No. FN 9433-a, $45.25, USN)* Describes the qualities of efficient, effective letter writing and suggests ways of obtaining these qualities.

Principles of Paperwork Management: Moving the Mail *(14 min., sd., color, 16 mm., Order No. FN 9433-b, $48.50, USN)* Discusses the administrative and supervisory problem of moving mail quickly and economically; shows fifteen ways of improving mail movement.

Principles of Paperwork Management: Better Correspondence Practices *(11 min., sd., color, 16 mm., Order No. FN 9433-c, $37.25, USN)* Describes nine ways of saving time and money in correspondence management.

Principles of Paperwork Management: Managing Your Forms *(17 min., sd., color, 16 mm., Order No. FN 9433-d, $58.50, USN)* Describes the efficient design and use of Navy forms and shows common errors. Outlines the procedure for obtaining well-designed forms.

Principles of Paperwork Management: Managing Your Reports *(11 min., sd., color, 16 mm., Order No. FN 9433-e, $37.25, USN)* Describes common deficiencies which occur in reports and in reporting procedures. Describes areas of possible improvement such as quality of content, frequency and timing, preparation procedures, and cost.

Principles of Paperwork Management: Records Disposal *(15 min., sd., color, 16 mm., Order No. FN 9433-f, $51.75, USN)* Discusses the records disposal problem and suggests ways of solving it. Describes office management techniques for obtaining efficient use of storage space and providing for the correct disposal of records. Introduces and briefly describes relevant Navy manuals.

Public Works and Public Utilities: Controlled Maintenance *(19 min., sd., b&w, 16 mm., Order No. MN 8131-a, $33.75, USN)* Shows the basic procedures of controlled maintenance in operation in a U.S. Navy shore establishment.

Reliability—Fundamental Concepts—Part I *(30 min., sd., color, 16 mm., Order No. MN 8770A, $101.00, USN)* The film presents some of the fundamental concepts of reliability engineering that shall be used by designers of naval weapons systems, to achieve maximum inherent reliability in the design.

Reliability—Fundamental Concepts—Part II *(27 min., sd., color, 16 mm., Order No. MN 8770B, $91.25, USN)* This film continues the presentation of fundamental concepts of engineering that should be used by designers of naval weapons systems to achieve the maximum inherent reliability in design.

Reliability: Statistical Concepts *(25 min., sd., color, 16 mm., 1961, Order No. MN 8770-c, $84.75, USN)* Describes reliability engineering methods and demonstrates the basic concepts on which the analytical methods are based, using examples drawn from actual reliability studies. Probability theory is treated in further detail in connection with its application to reliability prediction.

Reliability Engineering: Reliability Testing *(30 min., sd., color, 16 mm., 1961, Order No. MN 8770-d, $101.00, USN)* Presents advanced methods and techniques of reliability analysis. One of the more critical system reliability problems is drawn out for detailed study by comparing observed and theoretical frequency distributions. Regression techniques, design "improvement" analysis, and the Monte Carlo technique are demonstrated.

Reliability—Reliability Testing *(25 min., sd., color, 16 mm., Order No. MN 8770-e, $84.75, USN)* Fundamentals of reliability testing design.

Reliability—Specifications and Reliability Assurance *(25 min., sd., color, 16 mm., Order No. MN 8770-f, $84.75, USN)* Philosophy and functions of specifications in relation to achievement of reliability assurance, general and detailed specifications, environment, interferences, interactions and interfaces affecting system performance requirements.

Reliability—Elements of Reliability Prediction *(30 min., sd., color, 16 mm., Order No. MN 8770-g, $101.00)* Prediction techniques. Use of techniques on major component of a weapon system. How predictions are made in drawing-board phase, and refined in bench test and prototype test phases.

Reliability—Part and Parcel *(28 min., sd., color, 16 mm., 1963, Order No. TF 5530, $94.50, USAF)* Describes reliability standards established within Air Force Systems and Logistics Commands. Explains how the standards serve as production requirements and management tools in procurement of electronic replacement parts. Shows how the standards reduce costs and increase product reliability.

Reserve Management in Action *(21 min., sd., color, 16 mm., Order No. SFP 599, $71.50, USAF)* Shows various ways in which management planning is effective in keeping the Air Reserve forces ready for combat.

Take a Letter, Please *(22 min., sd., b&w., 16 mm., Order No. MN 1562-c, $38.50, USN)* Burlesques common faults of dictators identified as scatterbrain, speed demon, dreamer, mumblemush, and Simon Legree; shows proper methods of dictating letters.

The USAF Calibration Program *(13 min., sd., color, 16 mm., 1962, Order No. SFP 1047, $45.25, USAF)* Outlines the mission of the USAF calibration program, a concept that insures the accuracy of aircraft and missile navigational equipment.

Value Engineering: More Ships for Less Money *(13 min., sd., color, 16 mm., Order No. MN 8488, $45.25, USN)* Shows how the U.S. Navy Value engineering program works and explains its key techniques: Get the facts; know the costs; determine the function; do creative thinking; and evaluate by comparison. Examples are given of results of Value engineering.

The Vehicle Maintenance Story *(13 1/2 min., sd., color, 16 mm., $47.00, USPO)* A companion film to the above. Well photographed and fast moving. Points up to the value of good vehicle maintenance. And the effort made by the post office to establish proper maintenance procedures.

Zip-Code—The Swing Six *(12 1/2 min., sd., color, 16 mm., $43.75, USPO)* A fast paced lively "musical" using the talent of the "Swing Six." This film shows the need for ZIP code and how ZIP code works. Using original music in a contempcry style and setting, the film literally swings and sings the ZIP code message.

TRANSPORTATION

Anytime—Anything—Anyplace *(14 min., sd., b&w, 16 mm., Order No. SFP 634, $25.50, USAF)* Portrays the functions and services of the Military Air Transport Service.

Arctic Shipping: MSTS Arctic Operations *(25 min., sd., color, 16 mm., Order No. MN 8647-b, $84.75, USN)* Describes the major problems encountered during Arctic sea lifts for the resupply of weather stations and military bases and for the construction of DEWLINE sites. Includes discussion of aerial reconnaissance, hydrographic surveys, outfitting and preparation of ships, cargo operations, training of crews, good seamanship, and preparation for wintering in.

Highways Are for People *(27 min., sd., color, 16 mm., 1968, $91.25, FHA)* Stressing the beneficial role of highways in the development of the United States, this film points out the ability of highways not only to meet national transportation needs, but also to serve and harmonize with our Nation's efforts to improve its environment. The film demonstrates that sound State planning, public-minded programming, and imaginative design are contributing to the continuing improvement of the Federal-aid highway system.

Laredo to Panama: The Inter-American Highway *(18 min., sd., color, 16 mm., 1964, $61.75, FHA)* The story of the economic and social benefits brought to the people of Mexico and Central America by the Inter-American Highway. Shows the industrial, agricultural, and educational growth developing in these countries and how the highway has been instrumental in improving communications and the exchange of cultures in these ancient lands.

The Military Sea Transportation Service: Introduction *(19 min., sd., b&w, 16 mm., Order No. MN 7832-a, $33.75, USN)* Explains the functions, organization, and operations of the Military Sea Transportation Service of the U.S. Navy. Includes scenes of embarkation and debarkation of troops and dependents, living conditions aboard ship, and the transportation of materials and equipment.

The Military Sea Transportation Service: Troop Transportation *(20 min., sd., b&w, 16 mm., Order No. MN 7832-b, $35.25, USN)* Illustrates the problems and procedures involved in the formation, functions, and duties of the advance parties and voyage staffs aboard MSTS transports. Defines authority, zones of responsibility, and the proper administration of troops during embarkation, at sea, and during debarkation.

The Military Sea Transportation Service: Cabin Passengers *(20 min., sd., b&w, 16 mm., Order No. MN 7832-c, $35.25, USN)* Discusses problems encountered while traveling by MSTS transport; explains procedures and describes the facilities and limitation aboard ship. Points out what is required of passengers.

Point Control of Traffic *(32 min., sd., b&w, 16 mm., Order No. TF 19-2137, $55.25, USA)* Explains that point control of traffic is essential for the smooth and rapid movement of troops and supplies. Salient teaching points cover: standardized hand and arm signals; controlling direction of traffic flow through one-way and four-way intersections; management of flow cycle; control of pedestrian traffic—civic and military; handling right-of-way and emergency vehicles; handling traffic jams; handling traffic at defiles; control of traffic at night.

Target: Urban Mobility *(18 min., sd., color, 16 mm., 1965, $61.75, FHA)* After describing the rapid population growth taking place in the United States, the film explains the meaning of section 9 of the Federal Aid Highway Act of 1962 concerning requirements for an urban transportation planning process in urban areas having a population greater than 50,000. It then briefly outlines the 10 basic technical elements for which inventories and analyses are necessary in organizing and carrying out the cooperative, comprehensive, and continuing urban transportation planning process.

EDUCATION AND CULTURE

EDUCATIONAL INSTITUTIONS

The Naval Preparatory School *(12 min., sd., color, 16 mm., 1962, Order No. MN 9541, $42.00, USN)* Describes the Naval Preparatory School in Bainbridge, and its instructional program and extra-curricular activities.

USAF School for Latin America *(24 min., sd., color, 16 mm., 1965, Order No. SFP 1172, $81.50, USAF)* Describes training of Central and South American officers and airmen at USAF School for Latin America. Shows how students develop managerial and technical skills important to efficient operation of their respective air forces. Cleared for TV.

LANGUAGES

Foreign Language Learning in Our Schools: A Report on Results Achieved by Starting in the Elementary School. *(27 min., sd., color, 16 mm., Order No. OE 499, $91.25, USOE)* Presenting a pictorial survey of activities during classes in French, German, Spanish, and Russian in elementary and secondary schools, and one college. Suitable for showings to P.T.A. meetings, school administrators, teachers, and youth groups.

Foreign Language Teacher Training—Audio-Lingual Techniques for Teaching Foreign Languages *(60 min., sd., b&w, 16 mm., Order No. OE 497, USOE)* In three parts, depicting transition of techniques, the first day of language class, and technique examples to be viewed for class discussion, this motion picture is available in all four language versions.

French	$103.75
German	103.75
Spanish	103.75
Russian	103.75

In the National Interest *(60 min., sd., color, 16 mm., Order No. OE 498, $201.75, USOE)* Covers in general the work of State Department education supervisors of foreign languages, the National Defense Educational Act foreign language institutes, instruction in heretofore "neglected languages," and research underway dealing with foreign languages.

Language Instruction at the USAF Academy *(25 min., sd., color, 16 mm., 1962, Order No. TF 1-5472, $84.75, USAF)* Classroom and laboratory scenes illustrating progressive methods of teaching foreign languages at the Air Force Academy.

MATH

An Introduction to Vectors: Coplanar Concurrent Forces *(22 min., sd., b&w, 16 mm., Order No. OE 361, $38.50, USOE)* Explains the meaning of scalar and vector quantities; how to add scalars and vectors; methods of vector composition and resolution; relationship between vector composition and vector resolution; and how vectors may be used to solve engineering problems.

Descriptive Geometry: Finding the Line of Intersection of Two Solids *(22 min., sd., b&w, 16 mm., Order No. MN 5344-a, $38.50, USN)* Methods of determining intersecting lines of a cylinder and a cone by passing planes through the objects on an orthographic drawing.

Mathematics Through Discovery *(25 min., sd., b&w, 16 mm., Order No. OE 500, $43.75, USOE)* Shows how skilled instructors use a "learner discovery" method in teaching new concepts in mathematics at elementary and secondary school levels.

Mathematics: Unending Search for Excellence *(28 min., sd., b&w, 16 mm., Order No. OE 501, $48.75, USOE)* Demonstrates a variety of new media being used to improve mathematics instruction in elementary and secondary schools.

Periodic Functions *(17 min., sd., b&w, 16 mm., 1947, Order No. MN 1540-0, $30.50, USN)* Defines periodic functions; illustrates the graphing of sine angles; and relates sine waves to the amount of voltage produced by a generator.

Rectangular Coordinates *(13 min., sd., b&w, 16 mm., 1944, Order No. MN 1540-m, $23.75, USN)* Demonstrates how to use coordinates in solving problems involving time and distance, and how to locate a point using two co-ordinates.

The Slide Rule: The "C" and "D" Scales *(24 min., sd., b&w, 16mm., Order No. OE 179, $42.25,USOE)* Purpose of the slide rule; parts of the rule; how to use the "C" and "D" scales in the multiplication and division of numbers.

The Slide Rule: Proportion, Percentage, Squares, and Square Roots *(21 min., sd., b&w, 16 mm., Order No. OE 354, $37.00, USOE)* How to use the "C" and "D" scales of the slide rule to calculate proportions and percentages; how to read the "A" and "B" scales; and how to calculate squares and square roots.

Vectors *(12 min., sd., b&w, 16 mm., 1945, Order No. MN 1540-n, $22.25, USN)* Explains vectors, changes in angle or magnitude, how vectors are plotted and how the resultant is found.

MUSIC

Leatherneck Ambassadors *(15 min., sd., color, 16 mm, 1961, Order No. MN 9409, $51.75, USN)* Shows the Marine Corps' participation in the International Festival of Music, Edinburgh, Scotland, 1958.

The Naval School of Music *(14 min., sd., b&w, 16 mm., Order No. MN 8509, $25.50, USN)* Describes the various musical activities provided at the Naval School of Music and explains how musicians receive their training in preparation for assignment to Navy bands.

SPEECH

Articulatory Movements in the Production of English Speech Sounds. Part I: Consonants *(25 min., sd., color, 16 mm., $84.75, VA)* Through the use of animated drawings of the breathing process and direct photography of the movements of the larynegeal and articulatory structures, illustrates the production of speech. Movements of the lips, mandible, tongue, velum, and pharyngeal constructor muscles are shown in illustrations of oral continuant consonants, nasal continuants, plosives and affricatives commonly present in American speech.

Articulatory Movements in the Production of English Speech Sounds. Part II: Vowels and Glides *(26 min., sd., color, 16 mm., $88.00, USVA)* Through live-action photography of the movements of the laryngeal and articulatory structures, illustrates the production of vowels and their movements with glide sounds. Shows the importance of reasonance as a factor in speech intelligibility through samples of connected speech.

Speech Reading *(28 min., sd., b&w, 16 mm., Order No. TF 8-1706, $48.75, USA)* Explains how persons with a hearing loss can learn, by careful interpretation of lip movements, to "see" what people are saying. Shows how vowel and consonant sounds are formed by the mouth.

Speech Techniques *(11 min., sd., b&w, 16 mm., Order No. TF 212306, $19.75, USA)* Discusses the importance of good speech techniques in military instruction, and illustrates techniques to be used, including looking at and talking directly to the audience, attention to one's diction, exercising care in the use of mannerisms, and speaking slowly enough to be understood.

TECHNIQUES

The Capuchino Story *(14 min., sd., b&w, 16 mm., Order No. OE 509, $25.50, USOE)* A documentary of a research study using programmed instruction in several classes in Government in Capuchino High School, San Bruno, California in 1962. Film depicts various stages of the study with particular emphasis on contributions made consistently by teachers throughout the entire study.

The Case Method of Instruction—Part I *(19 min., sd., b&w, 16 mm., Order No. TF 20-2834, $33.75, USA)* Principles, application and value of method, role of instructor, how issues of case in point and plausible solutions grow out of discussion process.

The Case Method of Instruction—Part II *(23 min., sd., b&w, 16 mm., Order No. TF 20-2835, $40.50, USA)* Shows how one instructor handles a case discussion.

The Case Method of Instruction—Part III *(19 min., sd., b&w, 16 mm., Order No. TF 20-2836, $33.75, USA)* Shows how another instructor handles a second case discussion - The value of the case method in training executives and logistics managers is reiterated.

A Chance To Be Somebody *(27 1/2 min., sd., color, 16 mm., $71.25, USOEO)* A staff and teacher recruiting film also designed for community public relations and trainee recruiting. What are the techniques and materials used at a Job Corps Center for remedial reading? How are the Corpsmen tested upon entrance? How are they counseled? How are they trained for a position in industry requiring a high degree of skill? How do young men in a Work Program at a Conservation Camp improve forest recreational areas and construct trails and fire breaks? These and the residential actualities of a Job Corps Center are informatively revealed in color in this film.

Discipline and Self-Control *(25 min., sd., b&w, 16 mm., $35.00, USOEO)* Film discusses the problem of discipline as one of teaching and living with young children. The film shows how a teacher can establish control in a friendly climate and prevent disciplinary problems; discusses adequate supervision, and the dangers of over and under control; shows how to help a child accept control.

The 8 MM Film: Its Emerging Role in Education *(28 min., sd., color, 16 mm., $94.50, USOE)* Based on six years of exploring the educational potential of 8 MM film, program presents a sampling of activities in the field and suggests both the current state and future promise of the role of 8 MM film in education.

Functional Teaching in Electricity and Electronics *(16 min., sd., b&w, 16 mm., Order No. MN 8050, $28.50, USN)* Shows Navy instructors how to use such teaching procedures as trainee preparation, lecture, discussion, demonstration, experimentation, and review. Illustrates the use of training aids.

Head Start to Confidence *(22 min., sd., b&w, 16 mm., $28.00, USOEO)* Film illustrating the need for every child to have a sense of his own importance and worth as a person. Shows a teacher's various means of building the self-confidence of pre-school children through controlled achievement, language and performance of useful tasks.

Instructional Television at Pennsylvania State University *(60 min., sd., b&w, 16 mm., Order No. OE 512, $103.75, USOE)* A case study report by university staff and students on film giving realistic information regarding the experiences of one institution of higher learning with the successful use of closed circuit television on a campus-wide basis.

Light from a Black Box *(28 min., sd., b&w, 16 mm., Order No. OE 510, $48.75, USOE)* A documentary film of experimental efforts to apply programmed instruction and auto-instructional devices in the education of mentally retarded children.

Organizing Free Play *(20 min., sd., b&w, 16 mm., 1967, $29.00, USOEO)* Shows how to organize a Head Start Program based on the concept of free play. Uses actual situations to describe the curriculum, the organization of equipment, and essential techniques to be used in teaching the disadvantaged pre-schooler.

Pancho *(25 min., sd., color, 16 mm., 1967, $76.00, USOEO)* Surveys features of the Head Start Program. Follows the development of a young boy of Mexican descent, showing his miraculous physical and mental change from cretin to normal child through the aid of the Head Start Program.

Parents Are Teachers Too *(18 min., sd., b&w, 16 mm., 1967, $25.00, USOEO)* Discusses the role of parents as the child's first and continuing teachers, and points out that learning comes easier with a flow of understanding between school and home.

Point of View *(41 min., sd., b&w, 16 mm., 1963, Order No. OE 502, $70.00, USOE)* A vivid demonstration of the "discovery" method as applied to the teaching of English. Louis C. Zahner leads a class of 7th graders to see the implications of point of view in writing and speaking.

Principles of Learning *(23 min., sd., b&w, 16 mm., Order No. TF 21-2301, $40.50, USA)* Explains six principles of learning: motivation, objective, doing, realism, background, and appreciation—and emphasizes the importance of understanding and applying them during all phases of instruction.

Probing Mind *(29 min., sd., b&w, 16 mm., Order No. OE 505, $50.25, USOE)* Illustrates the uses of new educational media-films, television, recordings, teaching machines and well-equipped laboratories in the teaching of high-school science.

Programmed Instruction: The Development Process *(19 min., sd., color, 16 mm., Order No. OE 508, $65.00, USOE)* Introduces the viewer to the major stages in the development of programmed instructional materials with primary emphasis on student tryouts and revisions leading to lasting and influential effects on education.

Programmed Instruction: The Teacher's Role *(16 mm., Order No. OE 507, USOE)* A series of five short films designed to stimulate teachers discussion of the various uses of programmed instruction in teaching the following subjects:

First Grade Reading	10 min., b&w	$17.50
Third Grade Science	11 min., b&w	19.25
Fourth Grade Vocabulary	13 min., b&w	23.75
Fifth Grade Geography	10 min., b&w	17.50
Eighth Grade Mathematics	10 min., b&w	17.50

Programmed Learning in the United States Air Force *(26 min., sd., color, 16 mm., 1963, Order No. TF 5525, $88.00, USAF)* Describes principles of programmed learning and explains how the Air Force is using this revolutionary teaching method to increase quality and quantity of Air Force instructions with a decrease in training cost. Defines and illustrates three principal types of programming: linear, branching, and mathematics. Explains their advantages over traditional training methods. Pictures the system in operation at Randolph and Lackland Air Force Bases, Air University and Air Force Academy. Cleared for TV.

A Space To Grow *(32 min., sd., b&w, 16 mm., $41.00, USOEO)* Documentary showing the aims and techniques used by the Upward Bound Program to motivate and rectify the academic disabilities of talented poor youngsters.

To Speak with Friends *(29 min., sd., b&w, 16 mm., Order No. OE 506, $50.25, USOE)* Illustrates instructional practices in elementary and secondary schools using language laboratories, television, motion pictures, recordings, slides, and other special audio-visual facilities to help students in understanding and speaking foreign languages.

The Stages of Instruction: Application, Examination, and Review or Critique *(20 min., sd., b&w, 16 mm., Order No. TF 21-2304, USA)* Explains the importance of learning by doing, of giving examinations to improve learning and to measure the effectiveness of teaching, and of reviewing the main points of instruction in order to clear up any confusion which may exist in the student's mind.

The Stages of Instruction: Preparation *(12 min., sd., b&w, 16 mm., Order No. TF 21-2302, $22.25, USA)* Discusses the importance of estimating the instructional situation, selecting and organizing teaching materials, checking on the availability of training aids, preparing a lesson plan, rehearsing the lesson, and checking all arrangements to insure no slip up in the classroom.

The Stages of Instruction: Presentation *(12 min., sd., b&w, 16 mm., Order No. TF 21-2303, $22.25, USA)* Explains the elements of presentation in military instruction - introduction, explanation, and summary - and the lecture, conference, and demonstration methods of explanation.

Talking Together *(20 min., sd., b&w, 16 mm., 1967, $27.00, USOEO)* A discussion between parents and teachers in which they examine why their exchange of ideas throughout the year has been essential to their child's development.

Teachers Aides: A New Opportunity *(21 min., sd., b&w, 16 mm., $31.25, USOEO)* Head Start training film depicting the training of para-professional teacher's aides for pre-schools.

Teaching by Guided Discussion *(21 min., sd., b&w, 16 mm., Order No. TF 1-5210, $37.00, USAF)* Presents an Air University academic course instructor conducting a seminar in teaching psychology to demonstrate techniques of teaching by the guided discussion method, and illustrates applicable techniques.

Teacher-Directed Television Instruction *(28 min., sd., b&w, 16 mm., Order No. OE 513, $48.75, USOE)* A demonstration for university and school faculties of a television facility which frees the instructor from some of the restrictions inherent in traditional television presentations, and enables him to control by push buttons the use of the medium to best serve his purposes.

Teaching Machines and Programmed Learning *(29 min., sd., b&w, 16 mm., Order No. OE 496, $50.25, USOE)* Presents B.F. Skinner explaining the theory of programmed learning, Arthur Lumsdaine describing a variety of teaching machines and programmed materials, and Robert Glaser discussing the implication of such machines, and materials for education.

Television, A Teaching Assistance, Presenting Patterns of Inter-Institutional & Inter-regional College Teaching by Television *(28 min., sd., b&w, 16 mm., Order No. OE 511, $48.75, USOE)* A documentary in which concrete examples are shown of patterns of inter-institutional and inter-regional teaching on television in selected areas of the United States, including the educational advantages to both staff and students of cooperative uses of television in college teaching.

Training Aids *(23 min., sd., b&w, 16 mm., Order No. TF 21-2305, $40.50, USA)* Describes the types, characteristics, and uses of simple and complex training aids, including chalkboards, filmstrips, slides, transparencies, working models, and motion pictures.

Training Aids: Classroom Utilization *(15 min., sd., b&w, 16 mm., Order No. MN 6753-b, $27.00, USN)* How a good Navy instructor conducts a classroom lesson with the use of training aids.

Training Aids: Selection and Planning *(16 min., sd., b&w, 16 mm., Order No. MN 6753-a, $28.50, USN)* How a Navy instructor selects and plans the use of training aids; fits motion pictures, still pictures, charts, models, and mock-ups into his lesson plan; checks classroom, equipment, and aids prior to use.

Training Aids: Slides, Large Drawings, and Transparencies *(18 min., sd., color, 16 mm., Order No. MN 6753-c, $61.75, USN)* Urges instructors to make their own 3 1/4x4" lantern slides, large drawings, and transparencies for use with the overhead projector. Explains the nature of the equipment and materials which are needed and the opportunities for preparing and using such training aids by naval instructors.

Use of the Problem in Teaching *(28 min., sd., b&w, 16 mm., Order No. TF 1-5255, $48.75, USAF)* An Air University instructor employs a clever method for impressing his students with the principles and techniques of using the problem as an effective teaching aid.

Using Visual Aids in Training *(14 min., sd., b&w, 16 mm., Order No. OE 167, $25.50, USOE)* An instructor, teaching his class the use of the micrometer, follows a carefully planned procedure involving the use of a training motion picture, a coordinated filmstrip, and an instructor's manual.

Volunteers for Head Start *(7 min., sd., color, 16 mm., 1966, $18.00, USOEO)* Describes various opportunities for professional and non-professional service in the programs of Head Start. Includes scenes showing the work of volunteers such as doctors and dentists, fathers, retirees, club women, teenagers, and housewives.

WRITING

Effective Writing *(19 min., sd., b&w, 16 mm., Order No. TF 1-5072, $33.75, USAF)* Describes communication from the concrete symbols of the cave man to the prolixities and ambiguities of some current Government writing. Explains the rules for organizing material and gives various examples of ineffective writing with recommendations for improvement.

Organization and Mechanics of Writing *(35 min., sd., b&w, 16 mm., Order No., TF 1-5225, $60.25, USAF)* Explains the techniques used to develop good paragraphs and ideas; shows how to arrange words in proper order, how to punctuate, and how to organize a paper.

ELECTRICITY

EQUIPMENT

Across-the-Line Starters *(15 min., sd., b&w, 16 mm., Order No. OE 389, $27.00, USOE)* Theory and operation of a manually operated thermal overload switch; a magnetically operated across-the-line starter; a drum reversing switch for a three-phase motor; and a magnetic reversing switch.

D.C. Motor. Part I: Mechanical Overhaul *(20 min., sd., b&w, 16 mm., Order No. OE 392, $35.25, USOE)* How to test for electrical and mechanical faults; dismantle D.C. motor; turn the commutator; repair and replace field coils; assemble the motor; and adjust and make final tests.

D.C. Motor. Part II: Rewinding *(37 min., sd., b&w, 16 mm., Order No. OE 393, $63.50, USOE)* How to dismantle and clean an armature core; determine commutator pitch; re-insulate the core; insert coils; band an armature; shape coil ends; lay in and solder leads; balance and impregnate the armature; and turn a commutator.

Direct Current Controllers *(15 min., sd., b&w, 16 mm., Order No. OE 388, $27.00, USOE)* Shows shunt motors and direct current controllers in operation; and by animation, a direct current faceplate controller connected to a shunt motor.

Electrical Circuit Faults *(19 min., sd., b&w, 16 mm., Order No. OE 375, $33.75, USOE)* How to test for and locate common circuit faults, grounds, resistance deterioration, and interference in circuits.

Motors and Generators, Part I: D.C. Motors and Generators *(35 min., sd., b&w, 16 mm., Order No. TF 9-3106, $60.25, USA)* Describes the construction, uses, and principles governing the operation of DC motors and generators.

Motors and Generators, Part II: AC Motors and Generators *(25 min., sd., b&w, 16 mm., Order No. TF 9-3107, $43.75, USA)* Describes the design, characteristics, and operation of AC generators and motors.

Reduced Voltage Starters *(23 min., sd., b&w, 16 mm., Order No. OE 390, $40.25, USOE)* Principle of the transformer; operation of a manual starting compensator, thermal overload relay, and automatic starting compensator.

Repulsion-Induction Motor: General Overhaul *(25 min., sd., b&w, 16 mm., Order No. OE 397, $43.75, USOE)* How to check a repulsion-induction motor for electrical and mechanical faults; dismantle it; remove a damaged coil; wind and insulate a new coil; and assemble and lubricate the motor.

Repulsion Motor Principles *(11 min., sd., b&w, 16 mm, Order No. OE 387, $19.25, USOE)* Explains construction of repulsion motor; rotor circuits and effect of brush position; short-circuiting and brush-lifting mechanism; and applications of repulsion motors.

Rotating Magnetic Fields *(13 min., sd., b&w, 16 mm., Order No. OE 384, $23.75, USOE)* Explains a rotating magnetic field pattern; three-phase winding in a demonstration stator; factors that cause rotation of the magnetic field; and the construction of poly-phase motors.

Single-Phase and Polyphase Circuits *(17 min., sd., b&w, 16 mm., Order No. OE 383, $30.50, USOE)* Explains a single-phase synchronous generator; the use of sine curves to illustrate flow changes; a two-phase system and three-phase system; and ways of simplifying wiring.

Split-Phase Motor Principles *(17 min., sd., b&w, 16 mm., Order No. OE 386, $30.50, USOE)* Construction of stator and rotor; comparison of winding in two-phase stator with split-phase stator; effects of winding resistances and inductive reactances; and use of capacitor to produce phase displacement.

Split-Phase Motor: Rewinding *(28 min., sd., b&w, 16 mm., Order No. OE 394, $48.75, USOE)* How to test a split-phase motor for electrical and mechanical faults; dismantle and strip the stator; rewind the stator; form and install skein windings; insulate; lace, dip, and bake the stator; and assemble, lubricate, and test the motor.

Squirrel-Cage Rotor Principles *(10 min., sd., b&w, 16 mm., Order No. OE 385, $17.50, USOE)* Laws of magnetism and induced e.m.f.; electron flow in squirrel-cage rotors.

Synchro Systems, Part I *(15 min., sd., b&w, 16 mm., Order No MN 1540-w, $27.00, USOE)* Explains how a synchro generator controls the movement of a synchro motor; and shows the electrical transfer of angular motion between two remote points.

Synchro Systems, Part II *(13 min., sd., b&w, 16 mm., Order No. MN 1540-x, $23.75, USN)* Shows the operation of a control transformer and a differential synchro generator; explains how to use control transformer as a receiver and a differential synchro generator when putting corrections into the signal of the circuit.

Three-Phase Motor. Part I: Preparing To Rewind *(17 min., sd., b&w, 16 mm., Order No. OE 395, $30.50, USOE)* How to interpret and record nameplate data of a three-phase motor; identify the line and finish leads; remove coils and determine coil span; use a coil winding machine; and end-tape machine wound coils.

Three-Phase Motor. Part II: Rewinding *(17 min., sd., b&w, 16 mm., Order No. OE 396, $30.50, USOE)* How to insert mush coils and separators for "willies"; fold, trim, and wedge slot insulation around windings; insert phase insulation; and make a delta connection.

Wound Rotor Controllers *(17 min., sd., b&w, 16 mm., Order No. OE 391, $30.50, USOE)* Wound rotor motor principles; operation of a faceplate controller, drum-type nonreversing controller, drum-type reversing controller, and automatic magnetic starter for a wound rotor motor.

INSTALLATION

Cable Surface Wiring *(17 min., sd., b&w, 16 mm., Order No. OE 377, $30.50, USOE)* How to make an electrical entrance to a building; install non-metallic sheathed cable; handle and install porcelain fittings, support and connect cable; and prepare and connect wires for service.

Installing Conduit *(25 min., sd., b&w, 16 mm., Order No. OE 381, $43.75, USOE)* How to bend electrical metallic tubing; install tubing runs; bend rigid conduit; install rigid conduit runs; and use flexible conduit.

Installing Surface Metal Raceway *(22 min., sd., b&w, 16 mm., Order No. OE 380, $38.50, USOE)* How to install a molding raceway run to ceiling outlet; from ceiling outlet to wall switch; from ceiling outlet to wall fan; and to floor outlet.

Joining Solid Conductors *(22 min., sd., b&w, 16 mm., Order No. OE 369, $38.50, USOE)* How to make a Western Union, pigtail, plain tap, "wrapped tap" or Britannia, loop tap, and fixture joints; use a blowtorch; flux and solder joints; and insulate joints.

Pole Line Construction—Part III—Erecting Poles and Attaching Crossarms *(26 min., sd., b&w, 16 mm., Order No. TF 11-2716, $45.50, USA)* Erecting poles by using earth borer and by manual method - Raising, setting, facing, and aligning poles - Installing single and double crossarms, sidearm, "H" fixture, and buck crossarms - Selection of most suitable type of crossarm installation to safely support communication circuits is stressed.

Porcelain Protected Surface Wiring *(19 min., sd., b&w, 16 mm., Order No. OE 376, $33.75, USOE)* How to make an electrical entrance to a building; install wiring and porcelain fittings; support and insulate wires; and prepare and connect wires for service.

Power Bending Conduit *(17 min., sd., b&w, 16 mm., Order No. OE 382, $30.50, USOE)* How to assemble and operate a floor bender and a portable bender; make a 45 degree bend in a 3-inch conduit; make an offset in 1 1/2 inch conduit already installed.

Roughing-In Nonmetallic Sheathed Cable *(24 min., sd., b&w, 16 mm., Order No. OE 373, $42.25, USOE)* How to determine the location of required runs; install an offset bar hanger and ceiling outlet box; rough-in a circuit run; and make up connections for switches, receptacles, and fixtures.

Soldering Lugs and Splicing Stranded Conductors *(18 min., sd., b&w, 16 mm., Order No. OE 371, $32.00 USOE)* How to solder a lug, using electric soldering tongs, a blowtorch, and solder pot and ladle; splice stranded conductors, and make a served cable splice.

Three-Wire Service Entrance *(24 min., sd., b&w, 16 mm., Order No. OE 374, $42.25, USOE)* How to mount and connect an outdoor meter connection box; mount and connect a service control box; ground a three-wire service entrance installation and install concentric service entrance cable.

Wire Sizes and Voltage Drop *(13 min., sd., b&w, 16 mm., Order No. OE 372, $23.75, USOE)* Factors influencing the ability of conductors to carry electron flow; measurement of wire sizes; wire area in circular mils; voltage drop; and Ohm's law.

Wiring Old Buildings with Armored Cable *(22 min., sd., b&w, 16 mm., Order No. OE 379, $38.50, USOE)* How to install outlet boxes; cut and strip armor from cable; attach cable to outlet boxes; run armored cable; repair openings in walls; and join conductors at ceiling outlet.

THEORY

Amperes, Volts, and Ohms *(8 min., sd., b&w, 16 mm., Order No. MN 1540-u, $14.25, USN)* Explains the meaning, relationship, and measurement of amperes, volts, and ohms.

Basic DC Meter Movement *(3 min., sd., b&w, 16 mm., Order No. MN 8016-e, $6.75, USN)* Shows a representative meter, describes its essential components, and explains their functions.

Basic Electricity *(19 min., sd., color, 16 mm., Order No. TF 1-4144, $65.00, USAF)* An animated cartoon explaining the fundamentals of electricity, including voltage, current, resistance, magnetic fields, induction, primary and secondary coils, series and parallel circuits.

Basic Electricity: Inductance in AC Circuits *(7 min., sd., b&w, 16 mm., Order No. MN 8018-a, $12.50, USN)* Defines inductance and explains its cause and effect in an AC circuit. Illustrates inductive reactance, the factors that affect inductive reactance in an AC circuit, and the phase relationship between current and voltages as a result of the presence of inductance in the circuit.

Basic Electricity: Capacitance in AC Circuits *(5 min., sd., b&w, 16 mm., Order No. MN 8018-b, $9.25, USN)* Defines capacitance and demonstrates how a capacitor works; explains capactive reactance and its effects in an AC circuit, the factors that affect capacitive reactance, and phase angle; discusses the physical factors that affect capacitance and the effect of capacitance in an AC circuit.

Basic Electricity: AC Series Circuits *(4 min., sd., b&w, 16 mm., Order No. MN 8018-c, $7.75, USN)* Shows the elements of an AC series circuit; demonstrates, by sine waves and circuits, the effects upon and phase relationships between current and voltage. Using an LCR circuit, examines the effects of voltage and shows what the generator sees when XL exceeds Xc and when Xc exceeds XL. Demonstrates also a series resonant circuit using a LCR circuit where Xc and XL are equal.

Basic Electricity: AC Parallel Circuits *(4 min., sd., b&w, 16 mm., Order No. MN 9018-d, $7.75, USN)* Shows the elements of an AC parallel circuit, examines the effects of current, and shows what the generator sees in the following circuit, where XL exceeds Xc; and LCR parallel circuit, where Xc exceeds XL; and an LCR parallel circuit, where Xc equals XL.

Capacitance *(31 min., sd., b&w, 16 mm., Order No. MN 1540-a, $53.50, USN)* Demonstrates electron flow through a circuit, the charging and discharging of condensers, variations of a charge on a condenser in relation to time, and the behavior of capacitance with alternating current.

Charging Storage Batteries *(16 min., sd., b&w, 16 mm., Order No. TF 11-1219, $28.50, USA)* Explains the charging, care, and preparation of storage batteries, and constant voltage methods and modifications.

Current and Electromotive Force *(11 min., sd., b&w, 16 mm., Order No. MN 1540-t, $19.25, USN)* Explains electron theory, the arrangement of molecules, building up of current, conductors, electromotive force, resistance, and chemical and mechanical sources of electromotive force.

Current Flow, What It Is *(4 min., sd., b&w, 16 mm., Order No. MN* due to repulsion between electrons and attraction between electrons and positive atoms; that in a wire when an electron moves at one point an electron moves at every point; and that the amount of current depends upon the number of electrons per second moving past a point.

Direct Current Generators: Theory of Operation *(15 min., sd., b&w, 16 mm., 1959, Order No. MN 8594-a, $27.00, USN)* Shows the basic components of a generator and explains EMF of self-induction.

Direct Current Motors: Theory of Operation *(10 min., sd., b&w, 16 mm., 1959, Order No. MN 8594-b, $17.50, USN)* Shows the basic components of direct current motors and explains their operation.

Electromagnets *(3 min., sd., b&w, 16 mm., Order No. MN 8016-d, $6.25, USN)* Shows that by use of a magnetic field, current can be induced, and that this current in turn induces a magnetic field all along the wire. Shows the components of an electromagnet and explains how its strength can be varied.

Elements of Electricity *(15 min., sd., b&w, 16 mm., Order No. TF 11-622, $27.00, USA)* Explains the breakdown of a molecule into atoms, and the relation of protons and electrons to electricity.

How Magnets Produce Electricity *(4 min., sd., b&w, 16 mm., Order No., MN 8016-b, $7.75, USN)* Shows the use of a magnet field as it affects a single atom, a group of atoms as in a wire, and a wire in a closed circuit with a meter.

Moisture Proofing Electrical and Type Connectors *(20 min., sd., color, 16 mm., Order No. MN-8572, $68.25, USN)* How to apply synthetic rubber to electrical connections; how to mix, test and store potting compound.

Ohm's Law *(21 min., sd., b&w, 16 mm., 1964, Order No. TF 11-3396, $37.00, USA)* Presents a brief study of electronics with particular focus on the theory and application of Ohm's Law.

RCL *(34 min., sd., b&w, 16 mm., Order No. MN 1540-c, $58.75, USN)* Explains current and voltage in relation to time; voltage and current curves; the relationship of current and voltage; the measurement of voltage at source; the addition of phase components; and the effect of impedance on resonance.

Series and Parallel Circuits *(8 min., sd., b&w, 16 mm., Order No. MN 1540-v, $14.25, USN)* Illustrates series and parallel circuits, explaining current flow and voltage drop across each lamp.

Theory of the Lead-Acid Storage Battery *(25 min., sd., b&w, 16 mm., Order No. MN 8592, $43.75, USN)* Shows in detail, by use of animation, how chemical energy is converted into electrical energy to produce electromotive force.

Voltaic Cell, Dry Cell, and Storage Battery *(18 min., sd., b&w, 16 mm., Order No. TF 11-1187, $32.00, USA)* Explains the principles of a voltaic cell, a dry cell, and a storage battery.

What Causes Current Flow: EMF *(3 min., sd., b&w, 16 mm., Order No. MN 8016-f, $6.25, USN)* Shows an outside force converted into electrical force of attraction; points out that in a circuit the electrical forces of attraction and repulsion taken together are called electromotive force (EMF).

What Controls Current Flow: Resistance *(4 min., sd., b&w, 16 mm., Order No. MN 8016-g, $7.75, USN)* Shows the symbol for resistance to current flow, the atomic basis for resistance in materials, and the effect of the use of a resistor in a circuit.

ELECTRONICS

COMMUNICATIONS

The AN/TCC-7 System, Part II: Initial Adjustments of Carrier Telephone Terminal *(23 min., sd., b&w, 16 mm., Order No. TF 11-2696, $40.50, USA)* Shows the step-by-step procedures for making the initial adjustments on the carrier telephone terminal of the AN/TCC-7 system, including adjustments of terminal plate voltage; test circuit; transmit circuit of the order wire panel; signal path of message channels; transmitted line-up frequencies; and 600 volt power supply.

Basic Telephony *(23 min., sd., b&w, 16 mm., 1961, Order No. TF 11-3116, $40.50, USA)* Discussed operating principles, schematic and wiring diagrams, the four circuits - transmitter (primary) receiver (secondary), generator, and ringer.

Communication Center Procedure. Part I: Outgoing Messages *(17 min., sd., b&w, 16 mm., Order No. TF 11-1733, $30.50, USA)* Illustrates the proper procedure for handling outgoing messages at an army communication center. Emphasizes the handling of classified messages and use of the message center log.

Communication Center Procedure. Part II: Incoming Messages *(7 min., sd., b&w, 16 mm., Order No. TF 11-1734, $12.50, USA)* Describes the operation of a communication center at corps and lower headquarters. Emphasizes the care necessary to insure the efficiency of message handling.

Fundamentals of Carrier Telephony. Part I: Operation of a Carrier System *(12 min., sd., b&w, 16 mm., Order No. TF 11-2805, $22.25, USA)* Describes the features, operation, and advantages of the telephone carrier system used in today's Army; shows how the telephone carrier system provides for operation of several telephone or teletype channels over a single spiral four cable. Explains how different frequency bands are used in transmitting more than one voice over the transmission line at the same time.

Fundamentals of Carrier Telephony. Part II: Terminals and Repeaters *(19 min., sd., b&w, 16 mm., Order No. TF 11-2806, $33.75, USA)* Describes the features and function of carrier terminals and repeaters. Discusses carrier terminals; explains the fundamental electronic circuits employed by carrier terminal equipment; and shows how voice frequencies converted to electrical frequencies travel along the line of transmission.

Line-Up Procedures for Tactical Telegraph Carrier Equipment *(8 min., sd., b&w, 16 mm., Order No. TF 11-1837, $14.25, USA)* Demonstrates the procedure for setting up tactical telegraph carriers equipment for two wire operations, and emphasizes various tests to determine its operating efficiency.

Line-Up Procedure for Tactical Telephone Carrier Equipment *(11 min., sd., b&w, 16 mm., Order No. TF 11-1838, $19.75, USA)* Illustrates the procedure for lining up the terminal and ringer equipment and wiring the circuits; and emphasizes the need for synchronization between east and west terminals and the repeater station.

Line-Up of Field Teletypewriter Set EE-98A *(8 min., sd., b&w, 16 mm., Order No. TF 11-1839, $14.25, USA)* Demonstrates the step-by-step procedure for lining-up the field teletypewriter EE-98A; and emphasizes the importance of local and distant testing of the equipment.

Open Wire Transposition Systems *(17 min., sd., b&w, 16 mm., Order No. TF 11-1959, $30.50, USA)* Illustrates and explains the need for transpositions, how they improve communication, and the construction of various types of physical or single-point transpositions.

The Radio Man Fights *(10 min., sd., b&w, 16 mm., Order No. MN 2621-a, $17.50, USA)* Follows the course of a message from Washington, D. C. to a task force flagship at Guadalcanal; explains the importance of radio in the Navy: and presents an over-all picture of the training and duties expected of each radioman.

The Technique of Hand Sending *(9 min., sd., b&w, 16 mm., Order No. MN 2621-b, $15.75, USN)* Identifies parts of the transmitter; explains elements of the Morse code, timing and the importance of correct position and operation.

Rhythm, Speed, and Accuracy in Hand Sending *(12 min., sd., b&w, 16 mm., Order No. MN 2621-c, $22.25, USN)* Discusses sequence in rhythm and timing; points out that clear, distinct sending is essential in order to assure proper receiving at destination; compares several senders' ability by means of the recording tape.

Transmission Security *(19 min., sd., b&w, 16 mm., Order No. MN 2621-d, $33.75, USN)* Cautions radio operators against any action which might reveal a location or aid the enemy in any way. Points out the danger in sneaking out messages, sending unauthorized messages, and cutting in.

The Reins of Command — Air Force Communications Service *(28 min., sd., color, 16 mm., 1966, Order No. SFP 1285, $94.50, USAF)* Portrays missions of Air Force Communications Service and its vital role in Air Force operations. Depicts highly complex and sophisticated communications techniques, equipment, global communications network, and air traffic control system. Pictures use of communications in military exercises and operations. Brig. Gen. James Stewart narrates. Cleared for TV.

TT-47/UG Teletypewriter: General Principles and Operation *(16 min., sd., b&w, 16 mm., Order No. MN 7467-a, $28.50, USN)* Explains how teletypewriters are used in the Navy's communications system and demonstrates for the operator the basic principles of operation, use of the various function keys, and correct procedures for setting up messages and securing the machine.

TT-47/UG Teletypewriter: Installation and Performance Tests *(14 min., sd., b&w, 16 mm., Order No. FN 7467-b, $25.50, USN)* Demonstrates the step-by-step procedure for unpacking, installation, and assembly of the machine. Designed for personnel who install the machines rather than for operators.

TT-47/UG Teletypewriter: Preventive Maintenance *(6 min., sd., b&w, 16 mm., Order No. FN 7467-c, $11.00, USN)* Explains the importance of frequent checks and stresses the preventive maintenance technique which should be done by the operator rather than maintenance personnel. Shows cleaning, oiling, and minor adjusting of the machine.

Electromagnetic Interference Ashore *(18 min., sd., b&w, 16 mm., Order No. MN 8912, $32.00, USN)* Importance of radio communications and sources of electromagnetic interference. Identification and analysis. Interference reduction principles and designing out the interference.

The Invisible Battleground *(31 min., sd., color, 16 mm., 1962, Order No. MF 11-9416, $104.25, USA)* Efforts and facilities at Electronic Environmental Test Facility, Ft. Huachuca, to solve radio interference problems of the Field Army.

MAINTENANCE

Audio Oscillator Operation *(9 min., sd., b&w, 16 mm., Order No. MN 1540-r, $15.75, USN)* Explains the operation and use of audio oscillators and shows how to check an amplifier with the audio oscillator and "A" scope.

Circuit Testing with Meters and Multimeters. Part II: Practical Application *(37 min., sd., b&w, 16 mm., Order No. TF 11-1667, $63.50, USA)* Demonstrates how to use meters in testing transformers, capacitors, resistors, telephone loop circuits, etc.

High Frequency Soldering *(17 min., sd., b&w, 16 mm., Order No. OE 480, $30.50, USOE)* Theory of high frequency heating; how to select a work coil and leads; time and converter; determine correct soldering time and temperature; and use an automatic timer.

Lubrication of Electronic Equipment *(9 min., sd., color, 16 mm., Order No. MN 6942, $31.00, USN)* Explains the importance of routine and methodical lubrication of electronic equipment according to recommended procedures.

Preventive Maintenance of Signal Equipment for Commanders *(15 min., sd., b&w, 16 mm., Order No. MF11-7915, $27.00, USA)* Explains the procedures to be followed in the maintenance of ground signal equipment when in storage at army depots.

Printed Circuits and Their Repair *(28 min., sd., color, 16 mm., 1961, Order No. TF 1-5361, $94.50, USAF)* Explains that the accomplishment of many Air Force missions is dependent upon the reliability of printed circuits. Shows how to manufacture, clean, coat and dry printed circuits, and describes methods and tools used in their repair. Demonstrates how to remove and replace a faulty transistor and some types of emergency repair.

Radio Shop Techniques *(38 min., sd., b&w, 16 mm., Order No. MN 1540-e, $65.25, USN)* Shows tools used by a radio technician and demonstrates orthographic projection, layouts, sawing and filing drilling, bending metal, wiring, and soldering in making a regenerative receiver.

Signal Generator Operation *(9 min., sd., b&w, 16 mm., Order No. MN 1540-q, $15.75, USN)* Shows in detail how to use a signal generator to align a radio receiver.

Tube Tester Operation *(9 min., sd., b&w, 16 mm., Order No. MN 1540-p, $15.75, USN)* How to use testers to check cathode emission and dynamic mutual conductance.

Volt Ohmmeter Operation *(15 min., sd., b&w, 16 mm., Order No. MN 1540-s, $27.00, USN)* Shows how to operate a volts ohmmeter (Weston and other types) to measure ohms and volts.

SYSTEM

Electronic Functional Modules *(17 min., sd., color, 16 mm., Order No. MN 7460-b, $58.50, USN)* Portrays military dependence upon electronic systems and endeavors to persuade industry to adopt modular design and mechanized production in electronic manufacturing.

Electronics—Special Circuits and Devices—Free Running Blocking Oscillator Circuit—Operation *(7 min., sd., b&w, 16 mm., Order No. MN 8814D, $12.50, USN)* A simplified version of the blocking oscillator.

Electronics—Special Circuits and Devices—Triggered Blocking Oscillator Circuit—Operation *(7 min., sd., b&w, 16 mm., Order No. MN 8814E, $12.50, USN)* Conditions necessary for triggered blocking oscillator.

Electronics—Special Circuits and Devices—Waveguides *(18 min., sd., b&w, 16 mm., Order No. MN 9914A, %32.00, USN)* Theory of energy propagation down a waveguide.

Environmental Factors Affecting Reliability of Electronic Equipment *(17 min., sd., b&w, 16 mm., Order No, MN 8681-a, $30.50, USN)* Explains the influence of naval shipboard environments (shock, vibration, salt spray, temperature, etc.) upon the reliability of electronic equipment. Demonstrates the correlation of these environmental factors with specifications and testing procedures.

Introduction to Underwater Sound *(19 min., sd., b&w, 16 mm., Order No. MN 8857, $33.75, USN)* This film demonstrates the basic principles of underwater sound by means of art, animation and sound effects. It shows how a knowledge of these principles is essential to an understanding of sonar.

LORAN Duty—A Challenge *(28 min., sd., color, 16 mm., 1957, $168.00, USCG)* An indoctrination film showing the physical appearance, locate, operations, duties, and recreation at LORAN stations in the Arctic and Pacific areas.

Radar Refraction and Weather: Why the Weather? *(23 min., sd., color, 16 mm., Order No. TF 1-5079-a, $78.25, USAF)* Explains various atmospheric conditions and their effects on the performance of radar equipment. Defines such terms as standard refraction, anomolous propagation, super-refraction, sub-refraction, subsidence, inversion, and radar hole. Emphasizes the importance of close coordination of weather personnel.

Radar Refraction and Weather: The Radar Coverage Problem *(19 min., sd., color, 16 mm., Order No. TF 1-5079-b, $65.00, USAF)* Discusses geometry of refraction; application of radar optics; actual cases of loss of coverage due to radar ducts and radar holes; problems of radar stations beneath the refractive layer, directly in the refractive layer, and above the refractive layer; extended ground clutter; jamming of two radars caught in a refractive layer; and mutual interference of two radars.

Radar Refraction and Weather: The Radar Weather Problem *(15 min., sd., color, 16 mm., Order No. TF 1-5079-c, $51.75, USAF)* Explains how weather information is used at three different levels: operational radar site, division or sector control center, and staff level for planning purposes. Emphasizes the importance of teamwork at each level with the weather station.

Radar Refraction and Weather: Airborne Early Warning and Control *(14 min., sd., color, 16 mm., Order No. TF 1-5079-d, $48.50, USAF)* Explains weather conditions that affect aircraft radar units during flight and stresses the importance of radar in the detection of hostile aircraft.

Radio Compass Equipment *(31 min., sd., b&w, 16 mm., Order No. TF 1-4989, $53.50, USAF)* Covers the principles of operation of the AN/ARN-7 radio compass, and discusses problems which arise during actual flight.

Radio Relay Equipment AN/TRC-35 and -36—Part IV—System Lineup Procedures *(24 min., sd., b&w, 16 mm., Order No. TF 11-2766, $42.25, USA)* Features and function of AN/TRC-35 and -36 - Procedures for radio system lineup and overall system lineup when radio relay equipment is used with telephone carrier equipment

Radio Sets AN/GRC 3, 4, 5, 6, 7, and 8 *(17 min., sd., b&w, 16 mm., Order No. TF 11-1793, $30.50, USA)* Explains the characteristics, components and mechanical operation of the Army-Navy radio sets in the GRC (ground radio control) classification.

X-Ray Inspection *(21 min., sd., b&w, 16 mm., Order No. OE 173, $37.00,USOE)* Use of radiographs in industry; generation of X-rays in the X-ray tube; wave nature of X-rays; procedure in making radiographs; and interpretation of radiographs for defects in metals.

THEORY

Capacitance—Part I—Physical and Electrical Characteristics and Factors Affecting Capacitance *(29 min., sd., b&w, 16 mm., 1965, Order No. TF-11-3627, $50.25, USA)* Explains the characteristics, applications, functioning, and effects of capacitance on electronic circuits.

The Cathode Ray Tube: How It Works *(15 min., sd., b&w, 16 mm., Order No. MN 2104-a, $27.00, USN)* Demonstrates the construction and function of various parts of the cathode ray tube. Explains electrostatic and electromagnetic deflection and how varied currents affect the position of the spot of light on the scope.

The Diode: Principles and Applications *(17 min., sd., b&w, 16 mm., Order No. OE 176, $30.50, USOE)* Principles of electron flow across a gap; basic features of the diode tube; control of electron flow in the tube; photoelectric cells; X-ray tubes; and the diode as a rectifier.

The Effects of the Ionosphere on Radio Wave Propagation *(29 min., sd., b&w, 16 mm., Order No. TF 11-1632, $50.25, USA)* Explains the characteristics of propagated radio waves at various frequencies, ground and sky waves, effect of the ionosphere on sky waves, and the effects of favorable and unfavorable atmospheric conditions.

Electromagnetic Cathode Ray Tube: Theory of Operation *(20 min., sd., b&w, 16 mm., Order No. MN 8614, $35.25, USN)* Shows how the electrons are acted upon by the electron gun, control grid, and screen shield; describes the effect of a magnetic field on an electron in motion as the basis for the action of the focus coil and deflection coil; explains how a rotation sweep results from deflection coil currents out of phase by 90 degrees.

The Electron, An Introduction *(16 min., sd., b&w, 16 mm., Order No. OE 175, $28.50, USOE)* Nature of electrons; electron flow in solid conductors; electromotive force; types and control of electron flow; electron flow and magnetic fields; and induced electron flow.

The Electron Theory *(5 min., sd., b&w, 16 mm., Order No. MN 8016-a, $9.25, USN)* Shows the orbit of electrons around a representative atom; the symbols used for neutral atom, electron, and atom with one positive charge; and normal electron motion and outside force producing electron motion in one direction, called current flow.

Frequency Modulation—Part I—Basic Principles *(26 min., sd., b&w, 16 mm., 1964, Order No. TF 11-3482, $45.50, USA)* Explains the basic principles of FM radio communication using animation and block diagrams.

Inductance *(34 min., sd., b&w, 16 mm., Order No. MN 1540-b, $58.75, USN)* Shows how a magnetic force reacts around a coil, the nature of self-inductance, and how to increase the inductance of coil.

The Junction Transistor *(28 min., sd., color, 16 mm., 1967, Order No. MN 10334, $94.50, USN)* Transistor and diode action, electron flow, bias and amplifier circuits, gain and phase relationships.

Magnetic Cores—Part I—Properties *(29 min., sd., b&w, 16 mm., Order No. TF 11-3131, $50.25, USA)* Properties of magnetic cores and their application in data processing system; how info is stored and transferred from one core to another.

Magnetic Cores, Part II—Basic Circuits *(30 min., sd., b&w, 16 mm., 1962, Order No. TF 11-3132, $52.00, USA)* Features and functions of single-diode, split-winding, and inhibit transfer loops; application of these loops singly or in combination.

Microwave Oscillators, Part I—PT I Reflex Klystrons *(20 min., sd., b&w, 16 mm., 1965, Order No. TF 19-3546, $35.25, USA)* Describes the general characteristics, components and operation of reflex klystron tubes used as local oscillators in radar receiving systems.

Oscillators *(13 min., sd., b&w, 16 mm., Order No. MN 1540-i, $23.75, USN)* Explains the basic principles of electronic oscillation.

Principles of Gas-Filled Tubes *(15 min., sd., b&w, 16 mm., Order No. OE 353, $27.00, USOE)* Theory of ionization applied to gas-filled tubes; control of current in circuits employing gas-filled tubes; use of the gas diode as a rectifier; action of the grid in a gas triode; and application of the gas triode as a grid-controlled rectifier.

Single Sideband Radio: Introduction *(19 min., sd., b&w, 16 mm., Order No. MH 8939, $33.75, USMC)* Explains the theory of single sideband radio techniques and discusses SSB as compared with AM techniques.

Standing Waves on Transmission Lines *(23 min., sd., b&w, 16 mm., Order No. MN 1540-k, $40.50, USN)* By means of animated diagrams, laboratory demonstrations, and diverse analogies explains the causes, results, and prevention of standing waves in radio high frequency transmission lines.

Transistors, Part IV—Pulse Applications *(39 min., sd., b&w, 16 mm., 1963, Order No. TF 11-3051, $66.75, USA)* Features and applications of square, saw-toothed, and spiked pulses; how transistors form various multivibrations.

Transistors: P-N Junction Fundamentals *(11 min., sd., b&w, 16 mm., Order No. MN 8479-a, $19.25, USN)* Explains the theory and mechanisms of semi-conductor diode and transistor action, and discusses the fundamental principles that apply to all transistors and junction rectifiers.

Transistors: Triode Fundamentals *(11 min., sd., b&w, 16 mm., Order No. MN 8479-b, $19.25, USN)* Shows that junction transistors, or triodes, consist of three sections with two P-N junctions separating them, and discusses the fundamentals of this arrangement as an amplifying device.

Transistors: Minority Carriers *(10 min., sd., b&w, 16 mm., Order No. MN 8479-c, $17.50, USN)* Introduces the principle of minority carriers, shows how they produce a small reverse current under normal conditions, and demonstrates the limitations imposed on transistor behavior by minority carriers when the transistor is heated or loaded.

Transistors: Low Frequency Amplifiers *(15 min., sd., b&w, 16 mm., Order No. MN 8479-d, $27.00, USN)* Shows how transistors are used to amplify low frequencies in common base, common emitter, and common collector circuits. Explains transistor functions for a common base amplifier and a common emitter amplifier, and refined common emitter amplifier circuits.

Transistors: High Frequency Operation—Amplifiers and Oscillators *(14 min., sd., b&w, 16 mm., Order No. MN 8479-e, $25.50, USN)* Describes how transistors operate in high frequency amplifiers and in oscillator circuits; shows the influence of transit effects in the base; explains collector capacitance and base resistance on high frequency performance.

Transistors: Switching *(14 min., sd., b&w, 16 mm., Order No. MN 8479-f, $25.50, USN)* Shows examples of switching circuits in transistorized computers, explaining briefly the concept of digital computation and how transistors are used, and in more detail how a simple transistor switch works, with special attention to minority carrier storage in the base, showing how delaying effects of this storage are overcome.

Transistors: Servicing Techniques *(17 min., sd., b&w, 16 mm., Order No. MN 8479-g, $30.50, USN)* Discusses common types of transistor failures such as opens, shorts high leakage current, low gain, and problems in localizing them. Demonstrates with over-shoulder camera views, the special techniques that must be used with transistorized equipment.

The Triode: Amplification *(14 min., sd., b&w, 16 mm., Order No. OE 177, $25.50, USOE)* Principles of the diode and triode; electric fields; a triode amplifier circuit; amplification of D.C.

voltage changes; alternating voltages; distortion; amplification of audio frequency signals.

Tuned Circuits *(28 min., sd., b&w, 16 mm., Order No. TF 11-1831, $48.75, USA)* Explains the theories behind the electronics of tuned circuits and the application of these theories to a practical radio receiver layout and to a radio transmitter.

Vacuum Tubes: Electron Theory and the Diode Tube *(16 min., sd., b&w, 16 mm., Order No. TF 1-470, $28.50, USAF)* Explains electron behavior in matter, electron sources in vacuum tubes, symbols of tubes, functioning of tube in a circuit and effect of plate voltage changes, space charge, and diode and duo-diode as reflectors.

Vacuum Tubes: Triode and Multipurpose Tubes *(14 min., sd., b&w, 16 mm., Order No. TF 1-471, $25.50, USAF)* Describes the triode tube as evolved from the diode tube, its structure and capacities, and the circuits in which the tube functions. The functions of the grid, grid bias, the screen and suppressor grids, and multipurpose tubes are indicated.

40

HEALTH AND MEDICAL

ADDICTION

The Distant Drummer: Bridge from Noplace *(22 min., sd., color, 16 mm., 1969, $74.75, NIMH)* Third in a series of three films. Examines the present status of treatment for drug addiction, rehabilitation of addicts, and promising research projects. Narrated by Rod Steiger.

The Distant Drummer: Flowers of Darkness *(22 min., sd., color, 16 mm., 1969, $74.75, NIMH)* Second in a series of three films. Traces the history of opium to the present-day usage of heroin, the most destructive and highest-priced commodity in the world. Examines Asian usage, looks at the methods and procedures of organized crime trafficing the drug to U.S., and portrays its toll on the streets of America. Addicts in this country talk about their compulsion for drugs and experts describe methods of combatting the problem. Narrated by Paul Newman.

The Distant Drummer: A Movable Scene *(22 min., sd., color, 16 mm., 1968, $74.75, NIMH)* First in a series of three films. A serious and dramatic look at some of today's young people and their use of hallucinogenic drugs. Includes quick visits to the hippies' favorite meeting grounds in San Francisco, New Orleans, and New York. In addition, the camera explores the drug scene in London, Europe, the Middle East and the high Himalayas. Narrated by Robert Mitchum.

Getting Through *(21 min., sd., b&w, 16 mm., Order No. M-1520-x, $37.00, NMAC)* Burt Lancaster is featured in this film which poses some troublesome questions about cigarette smoking: why young people start smoking and what factors are responsible for their decision. Scenes are shown from the "smoky world" which surrounds teenagers today, and smoking is explored as a complex paradox of our society.

LSD (Short Version) *(28 min., sd., color, 16 mm., 1967, Order No. MN-10507, $94.50, USN)* This film features Walter Miner, LCDR, MC, outlining how LSD was discovered, the dangers of its misuse, and its effects on the brain and body.

The Mask *(33 min., sd., b&w, 16 mm., Order No. MIS-874, $56.75, NMAC)* Informs the police that alcohol may mask symptoms of both physical and mental disorders and suggests a system of observation that begins when a person is first seen by the police. It emphasizes the significance of alcoholism as a problem and stresses the increasingly humanitarian role of the police.

The Riddle *(20 min., sd., b&w, 16 mm., $44.00, USOEO)* Documentary about the use of narcotics and drugs by young people; filmed in New York City. Film shows the attempt of a young man to make his way instead of "copping out" with drugs.

A Trip to Where *(50 min., sd., color, 16 mm., 1968, Order No. MN 10494, $168.25, USN)* This film illustrates the harmful effects of the misuse of drugs such as barbiturates, amphetamines, marijuana and LSD.

ANATOMY

Carotid Triangle *(20 min., sd., color, 16 mm., $68.25, VA)* Demonstrates, on a cadaver, the boundaries of the carotid triangle and exposes the important structures contained therein.

Flexion Exercises in the Management of Low-Back Mechanical Disorders *(39 min., sd., color, 16 mm., $130.50, VA)* Reviews various treatments for low-back mechanical disorders; describes the use of a set of flexion exercises for patients with herniated or bulging discs, spur formations on vertebrae, spondylolisthesis, postural backache, several congenital anomalies, and in postoperative care. Emphasizes that flexion exercises are a contribution to the total knowledge of low-back mechanical disorders rather than a definitive treatment.

Fractures About the Elbow *(30 min., sd., color, 16 mm., $101.00, VA)* Discusses the functional anatomy of the elbow joint and illustrates the displacing pulls of the muscle groups as they affect different fractures. Describes the mechanism of typical elbow injuries, such as fractures of the supracondylar, intercondylar, olecranon and head of the radius, and demonstrates various types of management, including manipulation, traction, and open reduction.

Fractures About the Knee *(24 min., sd., color, 16 mm., $81.50, VA)* Explains the anatomy of the knee joint and its surrounding structures as they affect and are affected by fractures in the area. Shows management of fractures of the patella, intercondylar fractures of the femur, and fractures of the tibial plateau.

Fractures About the Wrist and Hand *(30 min., sd., color, 16 mm., $101.00, VA)* Discusses the functional anatomy of the wrist and hand, particularly as it relates to fractures in that area; describes the mechanisms of typical injuries, including fractures of the phalanges, metacarpals, carpal navicular, lunate, and Colles' fracture; and demonstrates treatment by manipulation, traction, and immobilization, with emphasis on the basic principles of fracture reduction. Includes a section on the aftercare of wrist and hand fractures.

Fractures of the Femur About the Hip Joint *(21 min., sd., color, 16 mm., $71.50, VA)* Discusses the anatomy of the region about the hip, with special reference to the displacing pulls of muscles as they affect various fractures, and the blood supply to the head and neck of the femur. Includes fractures of the neck of the femur and intertrochanteric fractures. Shows methods of internal fixation and discusses the problems of maintenance of reduction by internal fixation as opposed to traction, particularly with reference to the elderly patient.

Fractures of the Head and Shaft of the Humerus *(26 min., sd., color, 16 mm., $88.00, VA)* Discusses the functional anatomy of the shoulder and illustrates the displacing pulls of the muscle group as they affect different fractures. The mechanism of typical humerus fractures, such as those of the surgical neck and shaft, are described and various types of management including manipulation, traction and open reduction are demonstrated.

Fractures of the Leg and Ankle Joint *(26 min., sd., color, 16 mm., $88.00, VA)* Discusses the anatomical structures of the leg and ankle and how they function in relation to fractures in that area; the displacing pulls of the muscles and dangers to the nerve and blood supply; management of fractures of the tibia and the malleoli; and the various methods of reduction, including the use of manipulation, traction, and internal fixation from the viewpoint of the principles underlying that treatment. Emphasizes the importance of aftercare.

Fractures of the Shaft of the Femur *(21 min., sd., color, 16 mm., $71.50, VA)* Discusses the various means of overcoming the displacements caused by muscles; demonstrates treatment for fractures of the upper, middle, and lower portions of the shaft; and explains with illustrations the principles of suspension traction and open reduction.

Fractures of the Shaft of the Radius and Ulna *(29 min., sd., color, 16 mm., $97.75, VA)* The complex rotational relationship between the radius and ulna is described to emphasize the importance of accurate reduction to normal functioning of the hand. The film discusses the displacing pulls of the forearm muscles and the effect of various fractures on the blood vessels and nerves in the area. Typical forearm injuries, including fractures of both bones, fractures of the shaft of the radius and fracture of ulna with anterior dislocation of the head of the radius are described. Methods of treatment are shown, and the problems of maintenance of reduction by traction as well as internal fixation are discussed.

A section of the film is devoted to suggestions for the aftercare of forearm fractures.

Masseter, Temporal Muscles and Temporal Fascia *(64 min., sd., color, 16 mm., $216.50, VA)* Demonstrates, on a cadaver, an anatomical dissection of the head and neck, the temporomandibular joint, masticatory muscles, deep spaces of the face, and the third division of the trigeminal nerve.

Parotid Gland and Facial Nerve *(24 min., sd., color, 16 mm., $81.50, VA)* Demonstrates on a cadaver, a systematic dissection layer by layer, showing the parotid gland in its relationship to other structures, facial nerve, and its branches.

Submandibular and Submental Triangle *(24 min., sd., color, 16 mm., $81.50, VA)* Demonstrates, on a cadaver, the boundaries of the submandibular and submental triangles and shows the important structures therein.

Superficial Structures and Boundaries of the Carotid Triangle *(21 min., sd., color, 16 mm., $71.50, VA)* Demonstrates, on a cadaver, progressive dissection of the structures superficial to the carotid triangle and the limitations of its boundaries.

Surgical Anatomy of Thyroid Gland, Trachea, and Larynx *(33 min., sd., color, 16 mm., $110.75, VA)* Demonstrates, through an anatomical dissection of the head and neck, the surgical anatomy of laryngotomy and thyroidotomy. Depicts the superficial veins, infrahyoid muscles, larynx, thyroid gland, deep veins, cricothyroid muscles, and cricothyroid ligament. Shows the larynx exposed from a posterior aspect and the production of an artificial glottis edema.

BACTERIOLOGY, GENERAL

Studies in Bacteriology: Part 2. Motility *(4 min., silent, b&w, 16 mm., Order No. M-130b, $7.75, NMAC)* Shows by cinephotomicrography and explains by captions the motility of monotrichous, amphitrichous, and peritrichous bacteria. User should supplement film with current data. Credits: Based on photography done in 1930-31 by R.P. Loveland of Eastman Kodak Co. Research Laboratories.

BIOLOGY AND ZOOLOGY

The Aedes Aegypti Inspector *(21 1/4 min., sd., color, 16 mm., Order No. M-1151, $73.00, NMAC)* A training film to teach Aedes aegypti mosquito inspectors and control personnel how to locate, recognize, collect, and identify the mosquito in the laboratory. Also shows how block-by-block inspections are made and reported on, and how to obtain the co-operation of home owners in an eradication program.

Area Poisoning *(9 min., sd., b&w, 16 mm., Order No. M-37.1-f(2), $15.75, NMAC)* Discusses the uses of such rodenticides as red squill, ANTU, arsenic trioxide, 1080 water, and warfarin. No. 7 of series.

Biology and Control of the Cockroach *(14 min., sd., color, 16 mm., Order No. M-426, $48.50, NMAC)* A filmograph designed to train sanitarians in recognition and control of the cockroach. Describes new insecticides for the control of cockroaches which are resistant to chlordane.

The Biology and Control of Domestic Flies *(15 min., sd., color, 16 mm., Order No. M-628, $51.75, NMAC)* Designed to train sanitarians, physicians, engineers and other Public Health workers in the public health importance, biology, environmental control and chemical control of common species of domestic flies. Of special value as a base-line for community fly control operations.

Biology of Domestic Flies *(9 min., sd., b&w, 16 mm., Order No. M-80, $15.75, NMAC)* Explains the life cycle of the house fly; characteristics of domestic flies (house, blow, flesh, and stable flies); typical breeding places; public health implications of the fly's mechanisms for transmitting disease organisms and filth; and control measures.

Biology and Control of Domestic Mosquitoes *(22 min., sd., color, 16 mm., Order No. M-357, $74.75, NMAC)* Stresses the need for local health departments, civic and service groups, and individuals to co-operate with the U.S. Public Health Service in the control of domestic mosquitoes.

Breakbone Fever, "Dengue" *(8 min., sd., color, 16 mm., Order No. MN 3726-c, $27.75, USN)* Shows effectiveness of mosquito control in checking the incidence of dengue in the Southwest Pacific.

The Collection of Adult Flies *(6 min., sd., color, 16 mm., Order No. 4-085, $21.25, NMAC)* Shows three devices for adult fly collection—sweep net, for rapid surveys; fly trap, for detailed qualitative studies; and cone net, for collecting live flies over natural attractants.

Community Fly Control Operations *(12 min., sd., b&w, 16 mm., Order No. 4-094, $22.25, NMAC)* Explains the steps taken in a fly control project in a typical town, involving gaining the support of the people (education); eliminating fly breeding places (sanitation); and applying spray materials (chemical control).

Fly Control Through Basic Sanitation *(9 min., sd., color, 16 mm., Order No. 4-090, $31.00, NMAC)* Shows conditions which favor fly breeding in a community—filth, warmth, moisture, and time for development; and outlines specific procedures in urban and rural areas for basic sanitation programs, particularly the elimination of open garbage and refuse dumps.

Fly Density Surveys by the Grill Method *(6 min., sd., color, 16 mm., Order No. 4-086, $21.25, NMAC)* Explains the nature, construction, and use of the fly grill for measuring fly density.

Front Line of the Battle *(15 min., sd., color, 16 mm., Order No. M-1070, $51.75, NMAC)* A training film showing correct procedures of hand spraying and power spraying in residential and business areas for eradicating Aedes aegypti and other container-breeding mosquitoes.

Let's Finish the Job *(11 min., sd., color, 16 mm., Order No. M-1373, $37.25, NMAC)* Shows the many breeding areas of the Aedes aegypti mosquito in the modern city. Gives the life cycle of the mosquito and describes steps necessary to eradicate it.

Malaria Control on Impounded Water *(19 min., sd., color, 16 mm., Order No. 4-069.1, $65.00, NMAC)* Depicts the malaria control program for the Kentucky reservoir—planning operations; reservoir clearance before impoundage; permanent control measures including dyking and de-watering; emergency control measures including house mosquito-proofing and spraying; and reservoir operations.

Mosquito Prevention in Irrigated Areas *(7 min., sd., b&w, 16 mm., Order No. M-73, $12.50, NMAC)* Shows how to control mosquitoes in irrigated areas by good design and careful maintenance of the irrigation system, accurate preleveling of fields, and providing adequate run-off drainage in order to avoid standing water.

Mosquito Stages of Plasmodium Falciparum *(11 min., sd., b&w, 16 mm., Order No. M-138b, $19.25, NMAC)* By means of cinemacrography, cinemicrography, and graphics, shows the female of the Anopheles quadrimaculatus obtaining a blood meal, and transfer of sporozoites to the salivary glands and their inoculation into the tissues of the host.

Mosquito Survey Techniques *(15 min., sd., color, 16 mm., Order No. M-127, $51.75, NMAC)* Shows mosquito survey methods under a variety of circumstances and for various mosquito species; how properly to collect larvae and adult mosquitoes; and how to keep accurate records and evaluate results.

The Norway Rat, Habits and Characteristics *(18 min., sd., b&w, 16 mm., Order No. M-37.1b, $32.00, NMAC)* Explains and pictures the characteristics and habits of the Norway rats—their colonies, runways, physical characteristics, feeding habits, and nocturnal activities. Makes the point that only by knowing the habits of the Norway rats can man control them. No. 2 of series.

Organized Mosquito Control *(16 min., sd., color, 16 mm., Order No. M-191, $55.00, NMAC)* Shows a sampling to determine the species of mosquitoes present, their relative abundance, and types of breeding places; dipping for larvae to determine major problem areas; breeding sites as determinants of flight ranges; three common methods of mosquito abatement; and five major problem areas.

Rat Ectoparasite Control *(8 min., sd., b&w, 16 mm., Order No. M-37.1g, $14.25, NMAC)* Explains the necessity, in areas where murine typhus or plague exist, to kill rat fleas even before killing the rats; and demonstrates methods of using DDT to kill the fleas. No. 8 of series.

Rat Killing *(13 min., sd., b&w, 16 mm., Order No. M-37.1-fl1), $23.75, NMAC)* Emphasizes three aspects of rat control—sanitation techniques, rat-proofed buildings, and rat killing. No. 6 of series.

The Rat Problem *(16 min., sd., b&w, 16 mm., Order No. M-37.1a, $28.50, NMAC)* Orientation film emphasizing the extent and seriousness of the health and economic problems caused by rats. No. 1 of series.

Ratproofing *(10 min., sd., b&w, 16 mm., Order No. M-37.1e, $17.50, NMAC)* Explains methods and materials to be used in the ratproofing of buildings to prevent the entry or exit of rats, and after ratproofing the exterior of a building, the necessity of killing all rats inside. No. 5 of series.

The Roof Rat, Habits and Characteristics *(8 min., sd., b&w, 16 mm., Order No. M-37.1c, $14.25)* Explains and pictures the characteristics and habits of the roof rat—its climbing ability, physical characteristics, and feeding and nesting habits. Makes the point that only by knowing the habits of the roof rat can man control it. No. 3 of series.

Rural Rat Control *(16 min., sd., b&w, 16 mm., Order No. 4-116, $28.50, NMAC)* Explains how a farmer who understands rat habits can free his farm of rats through ratproofing buildings and food sources, burying garbage in a one-man land fill, and using approved poisons.

Sanitation Techniques in Rat Control *(12 min., sd., b&w, 16 mm., Order No. M-37.1d, $22.25, NMAC)* Explains the importance of controlling rats by cutting down their food supply, and suggests various methods of garbage and refuse storage and removal. No. 4 of series.

Space Spraying of Insecticides *(11 min., sd., color, 16 mm., Order No. M-442, $37.25, NMAC)* Demonstrates techniques of space spraying for insect control over large areas, and shows various types of modern power-spraying equipment.

Spraying Equipment and Procedures. Part 1: Residual Spraying *(9 min., sd., color, 16 mm., Order No. 4-091, $31.00, NMAC)* Explains the meaning of residual spraying for fly control, the necessity for this type of spraying, and the methods of using hand and power spraying equipment.

Ticks and Tick-Borne Diseases *(19 min., sd., color, 16 mm., Order No. M-346, $65.00, NMAC)* Discusses ticks and their importance in transmitting diseases, the biology of ticks, and how to control them.

The Use of Aircraft for Insect Control. Part 1: Mosquito Control *(13 min., sd., b&w, 16 mm., Order No. 4-077, $23.75, NMAC)* Depicts the general techniques, materials, and equipment developed in the use of aircraft for mosquito control; and indicates the kind of situation in which such control may economically and feasibly be applied.

Use of Anticoagulants in Rodent Control *(11 min., sd., color, 16 mm., Order No. M-474, $37.25, NMAC)* Describes the use of anticoagulants to kill rodents, advantages of these poisons, various forms and types of anticoagulants available, preparation of the various baits, placement of these poisons to provide the most efficient results, and precautionary measures when using these materials.

CANCER

Bronchiogenic Carcinoma *(16 min. sd., color, 16 mm., $55.00, VA)* Explains the incidence of bronchiogenic carcinoma, its diagnostic features and surgical management; and points out that patients with bronchiogenic carcinoma can be cured if diagnosis and treatment are introduced at an early stage of the disease.

Earliest Clinical Signs of Intra-Oral Malignancies *(25 min., sd., color, 16 mm., $84.75, VA)* This film shows a systematic procedure for examining the oral cavity. It also demonstrates the Papanicolaou smear technique and points out maturational disorders of the oral epithelium progressing from hyperplasia to carcinoma.

Mycosis Fungoides *(16 min., sd., color, 16 mm., $55.00, VA)* Discusses the historical development, classification, and clinical and histopathological features of mycosis fungoides; emphasizes histological criteria for diagnosis; shows clinical appearances of the pre-mycotic, mycotic, and ulcerative phases of the disease; and follows a case over a four-year period from early pre-mycotic to autopsy findings.

CARDIOVASCULAR SYSTEM

Blood Pressure Readings *(29 min., sd., b&w., 16 mm., Order No. MIS-690, $50.25, NMAC)* Shows a series of actual blood pressure measurements with the sphygmomanometer and stethoscope. Each scene shows the mercury being lowered in a manometer; the sound track gives the accompanying sounds. The audience is asked to fill out a test sheet as given subjects are repeated at random in 15 sequences.

Blood Pressure Readings *(19 min., sd., color, 16 mm., Order No. M-1582, $65.00, NMAC)* For training physicians and nurses. Shows a manometer with accompanying, synchronous Koratkoff sound. Fourteen blood pressure cases are presented followed by a pause for observer to write interpretation of blood pressure reading.

Heart Research News *(15 min., sd., b&w, 16 mm., Order No. MIS-687, $27.00, NMAC)* A nine-part newsreel presenting news reports of recent work conducted or supported by the National Heart Institute: (1) high blood pressure drug; (2) countershock; (3) diet and heart disease; (4) counterpulsation; (5) conduction system locator; (6) aging; (7) fetal EKG; (8) microsurgery; (9) artificial heart.

Highlights of Heart Research *(8 min., sd., b&w., 16 mm., Order No. MIS-701, $14.25, NMAC)* A five-part newsreel showing highlights of research supported or conducted by the National Heart Institute: (1) Transseptal Catheterization, (2) Continuous Electrocardiography, (3) Nibbling Chickens and Atherosclerosis, (4) Framingham Heart Study, (5) Stroke Surgery.

Introduction to Respiratory & Cardiac Resuscitation *(35 min., sd., color, 16 mm., 1962, Order No. PMF 5349, $117.50, USA)* Technique used on patients rendered unconscious by drugs: mouth-to-mouth and mouth-to-nose; respiratory and mechanical oxygen equipment; cardiac resuscitation.

Normal Heart Sounds and Innocent Heart Murmurs, a Stethoscopic Study: Part I and II *(41 min., sd., color, 16 mm., Order No. M-625, $136.75, NMAC)* An animated teaching instrument for medical students and a "refresher course" for practicing physicians. Provides the student with a foundation for the successful analysis of heart sounds and murmurs. It is also a visual-sound aid to understanding normal cardiac auscultation and to interpretation of cardiac events.

Reprieve *(22 min., sd., color, 16 mm., Order No. MIS-863, $74.75, NMAC)* Former President Dwight D. Eisenhower and other heart patients tell how sensible living habits and adherence to doctors' orders have enabled them to return to active and useful living. Offers hope and encouragement for the million-plus American men and women who each year survive a heart attack.

Splenoportography *(9 min., sd., color, 16 mm., Order No. PMF 5343, $31.00, USA)* Demonstrates the S-ray technique used at Walter Reed Army Medical Center to study the condition of the splenic and portal veins for diagnostic purposes.

CHEMISTRY

Antigen Analysis by Cellulose Chromatography and Gel Diffusion of Hydatid Fluid *(27 min., sd., color, 16 mm., Order No. M-545, $91.25, NMAC)* A visual report of a research project on the analysis of antigens in hydatid fluid, demonstrating the techniques of cellulose chromatography and gel diffusion. Recommended for professional use.

Basic Principles of the Analytical Balance *(19 min., sd., b&w, 16 mm., Order No. M-12, $33.75, NMAC)* Explains the uses of the analytical balance and shows how to find the zero point of the balance, find its sensitivity, calibrate the weights, weigh an object, and weigh out a predetermined amount of material.

Chemical Techniques: Estimation of Blood Glucose; Folin-Wu and Somogyi Methods *(12 min., sd., color, 16 mm., 1956, Order No. MN 9375-u, $42.00, USN)* Shows step-by-step the procedure for estimating blood glucose in the clinical laboratory, using either of the two methods.

Chemical Techniques: Estimation of Blood Glucose; Sunderman-Fuller Method *(5 min., sd., color, 16 mm., 1956, Order No. MN 9375-v, $18.00, USN)* Demonstrates step-by-step the procedure of a modified true Benedict method, as developed by Sunderman and Fuller, for the estimation of blood glucose.

Chemical Techniques: Folding a Filter Paper *(3 min., sd., color, 16 mm., 1956, Order No. MN 9375-q, $11.50, USN)* Demonstrates the technique of folding a filter paper for use when filtering solutions in laboratory determination.

Chemical Techniques: Protein-Free Filtrate; Folin-Wu Method *(5 min., sd., color, 16 mm., 1956, Order No. MN 9375-r, $18.00, USN)* Shows detailed procedure for the preparation of a protein-free filtrate, for use in making certain clinical laboratory determinations.

Chemical Techniques: Protein-Free Filtrate; Somogyi Method *(4 min., sd., color, 16 mm., 1956, Order No. MN 9375-s, $14.75, USN)* Demonstrates the procedure involved in preparing a protein-free filtrate for use in clinical laboratory determinations, by the Somogyi method, utilizing barium hydroxide.

Chemical Techniques: Protein-Free Filtrate; Tungstic Acid Method *(5 min., sd., color, 16 mm., 1956, Order No. MN 9375-t, $18.00, USN)* Shows alternate procedures for the preparation of a protein-free filtrate for use in clinical laboratory determination, utilizing a tungstic acid reagent.

Gross Radioactivity Analysis of Water *(5 1/2 min., sd., color, 16 mm., Order No. M-1344, $19.50, NMAC)* The films shows gross Alpha and Beta counting of water samples involved in the preparation of two samples—one for the suspended solids; the other for the dissolved solids. Suspended solids are removed with a membrane filter apparatus connected to a vacuum.

Method for Rapid Electrophoresis *(11 min., sd., color, 16 mm., Order No. M-1015, $37.25, NMAC)* Shows the electrophoretic apparatus, explains the functions of its parts and how to set up the machine. A typical "run" is demonstrated, explaining the technique of applying serum samples to the membrane and the step-by-step procedure of clearing and staining the resulting image.

Modification of the Schoenheimer-Sperry Method for Free and Total Cholesterol *(21 min., sd., color, 16 mm., Order No. M-1150, $71.50, NMAC)* Presents a reference procedure for the determination of serum free and total cholesterol. The cholesterol digitonide is precipitated and the precipitate is washed and dissolved in special filter columns rather than in the usual manner in centrifuge tubes.

Sample Mounting Techniques, Evaporation *(7 min., sd., color, 16 mm., Order No. M-1342, $24.50, NMAC)* Shows three methods for mounting solid samples by evaporation: pouring a slurry; pipetting a slurry; and pouring a dissolved solution.

Sample Mounting Techniques, Filtration *(6 1/2 min., sd., color, 16 mm., Order No. M-1343, $22.75, NMAC)* Shows in mounting solid samples that filtration is a common technique used to mount precipitated samples by the use of a vacuum, suction flask, filter paper and filter tower. The demonstration shows 3 types of filter towers: glass, teflon and stainless steel. Shows filter paper placed in a counting dish and dried under a heat lamp and more permanently mounted with a ring and disk.

Serum Cholesterol Determination *(9 min., sd., color, 16 mm., Order No. M-768, $31.00, NMAC)* Demonstrates the step-by-step procedure devised by Abell-Kendall for determining the cholesterol in serum.

CYTOLOGY & TISSUE CULTURE

Colony Characteristics of Mycobacteria in 7H-10 Agar Medium *(7 1/4 min., sd., color, 16 mm., Order No. M-1062, $26.00, NMAC)* Film consists of photomicography scenes showing various mycobacteria grown on 7H-10 Agar medium and describes their characteristics.

Inside the Cell. Part I: Enzymes in Intracellular Chemistry *(45 min., sd., color, 16 mm., Order No. PMF 5077-a, $153.00, USA)* A study of the theory of enzymes, showing by animated drawings the better known steps in glucose metabolism, and portraying by live-action photography the laboratory techniques practiced by several Nobel prize-winners.

Inside the Cell. Part II: Regulation of Enzymes *(43 min., sd., color, 16 mm., Order No. PMF 5077-b, $143.50, USA)* Explains the factors regulating enzyme action; shows a laboratory demonstration of feeding radioactive acetate to rats; discusses the effects of drugs on enzymes, the action of anti-metabolites, glycolysis and Kreb's cycle; and pictures the chemical action inside a cell.

Rapid Frozen Section Technique *(2 3/4 min., sd., color, 16 mm., Order No. M-998, $11.50, NMAC)* Demonstrates how the specimen is identified, trimmed for sectioning, placed on the microtome and frozen. Subsequent scenes show how the frozen specimen is cut into thin sections, stained, and finally prepared for examination by the pathologist.

Studies in Bacteriology. Part III: Cell Division *(4 min., silent, b&w, 16 mm., Order No. M-130-c, $7.75, NMAC)* Shows by cinephotomicrography and explains by captions the process of cell division of spherical and rod-shaped bacteria. User should supplement film with current data.

Credits: Based on photography done in 1930-31 by R. P. Loveland of Eastman Kodak Co. Research Laboratories.

DENTAL

Anterior Acrylic Bridgework. Part III: Variations, an Entirely Direct Technique *(5 min., sd., color, 16 mm., Order No. MN 4352-C, $18.00, USN)* Demonstrates construction of acrylic bridgework for one or two teeth; explains simplified procedures; and presents techniques of carving a model in a patient's mouth. For dental personnel.

Aseptic Procedure in Oral Surgery *(18 min., sd., color, 16 mm., Order No. MN 7930, $61.75, USN)* Defines and shows minimum standards of aseptic procedure in minor oral surgery; explains the duties of the staff in the aseptic procedure; and shows that the procedure is primarily sterilization plus maintenance of aseptic conditions.

Biomechanical Principles of Fixed Partial Denture Prosthodontics, Parts I and II

Part I *(45 min., sd., color, 16 mm., $153.00, VA)*
Part II *(30 min., sd., color, 16 mm., $101.00, VA)*

Demonstrates the desirability of observing sound principles in the planning and construction of crown and bridge fixed denture prostheses so that these restorations may serve effectively as replacements for missing teeth and in the preservation of the remaining teeth and other oral tissues. The engineering principles relating to cavity preparation and fixed partial denture prostheses are shown by the use of illuminated, clear plastic models.

Cavity Preparation *(11 min., sd., color, 16 mm., Order No. MN 5369-B, $37.25, USN)* Complete operation supplemented by animated models showing close views and cavity forms. For dental personnel.

Complete Dentures: Alginate Impressions *(17 min., sd., color, 16 mm., Order No. MN 6720, $58.50, USN)* Illustrates the technique for non-pressure full denture impressions using alginate (irreversible hydrocolloid) in loose fitting, perforated baseplate tray.

Complete Dentures: Remount Procedures *(19 min., sd., color, 16 mm., Order No. MN 9376, $65.00, USN)* Illustrates methods for correction of occlusal errors that have occurred in the processing phases of complete denture fabrication. Demonstrates procedures for laboratory remount and patient remount.

Complicated Exodontia, Introduction *(17 min., sd., color, 16 mm., $58.50, USN)* Deals with the fundamental procedures involved in the successful removal of all teeth; gives particular attention to those teeth which require more than the use of forceps alone for extraction; and demonstrates the basic principles underlying a proposed plan for treatment.

Dental Activities, Walter Reed Army Medical Center *(18 min., sd., color, 16 mm., Order No. PMF 5229, $61.75, USA)* Gives an overview of the dental activities at Walter Reed Army Medical Center, including the dental services for hospital patients, research in the dental laboratory, and professional education in the Medical Service Graduate School.

The Dental Assistant: A Career of Service *(13 min., sd., color, 16 mm., Order No. MIS-643, $45.25, NMAC)* Discusses the work and training of the dental assistant, explaining what the assistant does, how and where training is received and what the future holds for a person choosing the profession of dental assistant.

Dental Assistants, Their Effective Utilization *(20 min., sd., color, 16 mm., Order No. MIS-316, $68.25, NMAC)* Shows how a dentist, through the use of trained assistants, can give better service to his patients and reduce his own fatigue. Recommended for professional use.

Dental Care for the Chronically Ill and Aged *(19 min., sd., color, 16 mm., Order No. MIS-704, $65.00, NMAC)* A training film which depicts the provision of dental care to the homebound, chronically ill, and aged. Also shown are the new designs in portable equipment which were developed through actual study in providing home dental treatment.

Dental First Aid *(20 min., sd., color, 16 mm., Order No. MN 6723, $68.25, USN)* Shows a hospital corpsman, when a medical officer is not available, how to give simple dental first aid for simple tooth decay, inflamed pulp, root-end abscess, Vincent's infection, inflammation of the wisdom tooth area, and fractures of the jaw.

Dental Health and Oral Hygiene *(39 min., sd., color, 16 mm., $130.50, VA)* This motion picture demonstrates the structures of the oral cavity, the anatomy and functions of the teeth, the pathogenesis, prevention, and control of dental caries and periodontal disease, the relationship of dental disease to general health and the care of artificial dentures.

Equilibration of Occlusion *(19 min., sd., color, 16 mm., Order No. MN 7340, $65.00, USN)* Shows various pathological conditions of teeth, gums, and the associated nervous system caused by traumatic occlusion; gives illustrative examples of such occlusion; explains that in malocclusion, improvement of stress distribution is obtained through equilibration by selective grinding; and demonstrates this procedure by the use of study casts, animation, and live-action photography of natural and artificial dentures.

For Children, Because We Care *(13 min., sd., color, 16 mm., Order No. MIS-879, $45.25, NMAC)* Noted pediatrician, Dr. Benjamin Spock discusses community water fluoridation, its safety, and low-cost in reducing dental caries. A collection of photographs of children and adults in fluoridated and nonflouridated communities show the facts. Dr. Spock gives advice to parents.

Gingivectomy *(16 min., sd., color, 16 mm., Order No. PMF 5328, $55.00, USA)* Describes the clinical aspects of a gingival condition of the gums and demonstrates the surgical technique used in performing a gingivectomy. Salient teaching points cover technique of making the gingival incision; removal of incised tissue and debris; planing the root surfaces of the teeth; application of protective packs to the gums; and postoperative care of teeth by patient.

Hemimandibulectomy and Immediate Restoration with Acrylic Implant *(25 min., sd., color, 16 mm., $84.75, VA)* Presents a case of adamantinoma and demonstrates the resection of the left hemimandible including the condyle, and the immediate implantation of an acrylic prothesis.

Immediate Maxillary Anterior Acrylic Fixed Bridge Work in the Shop *(19 min., sd., color, 16 mm., Order No. MN 4352B, $65.00, USN)* Precision casting, molding several teeth as one unit, process of tooth extraction, final bridge work insertion.

Impressions for Removable Partial Dentures *(37 min., sd., color, 16 mm., 1964, Order No. PMF 5377, $124.00 , USA)* Demonstrates the details of impression making for removable partial dentures.

It's Up to You *(10 min., sd., color, 16 mm., Order No. M-1669-X, $34.00, NMAC)* A dental health film that tells why people should take care of their teeth and what steps they should take to have healthy teeth. Among the subjects discussed are periodontal disease, visits to the dentist, and correct methods of toothbrushing. The film points out that attainment of a lifetime of good dental health is "up to you".

Jaw Relation Records for Removable Partial Dentures *(30 min., sd., color, 16 mm., 1964, Order No. PMF 5378, $101.00, USA)* Demonstrates how to make an accurate maxillo-mandibular record for removable partial dentures.

The Layered Silicone Mold Technique for Processing Dentures *(30 min., sd., color, 16 mm., $101.00, VA)* This film presents a technique for processing mold in the upper half of the flask. This new method of processing produces extremely accurate dentures, free of adhering calcium sulphate film or particles, and with the surfaces as smooth as the polished wax of the trial dentures.

Mandibular Prognathism *(43 min., sd., color, 16 mm., $143.00, VA)* Demonstrates the two-stage operation for the correction of a mandibular prognathism. Shows in considerable detail pre-operative and post-operative studies as well as the two stages of the operation (Dingman procedure). Includes inserts of X-ray studies and medical sketches demonstrating various stages in the surgical procedure.

Matrix *(6 min., sd., color, 16 mm., Order No. MN 5369-C, $21.25, USN)* Low fusing impression compounds demonstrated as matrix reinforcement; tailored matrix applied to tooth; some reasons for failure of amalgam due to matrix application, and advantages of a reinforced matrix. For dental personnel.

Mouth Preparation for Removable Partial Dentures *(35 min., sd., color, 16 mm., 1964, Order No. PMF 5375, $117.50, USA)* Principles and procedures for diagnosing and treating patient's mouth prior to receiving prosthesis.

Oral Hygiene—Swab Your Choppers *(7 min., sd., color, 16 mm., Order No. MN 6602, $24.50, USN)* Current methods of cleaning.

Oral Prophylactic Techniques *(25 min., sd., color, 16 mm., 1958, Order No. TF 1-8171, $84.75, USAF)* Shows procedure for administering oral prophylaxis treatment. Emphasizes importance of oral hygiene and use of extreme care and dental skill when treating a patient.

Partial Dentures: Biomechanics *(15 min., sd., color, 16 mm., Order No. MN 6721, $51.75, USN)* Demonstrates the influence of forces of mastication on the design of partial dentures by dividing parts of partial dentures into bracing, supporting, and retaining elements. Emphasizes important construction details.

Pinlay Abutments *(26 min., sd., color, 16 mm., 1964, Order No. PMF -5374, $88.00, USA)* Clinical demonstration of pinlay abutment technique used in restoration of anterior teeth.

Re-orienting Occlusal Relationships—Part II *(27 min., sd., color, 16 mm., 1963, Order No. PMF 5354, $91.25, USA)* Clinical demonstration of correctly engineered restoration of patient's upper teeth, with stress on accomplishment of proper occlusal balance.

The Rubber Dam in Dentistry *(19 min., sd., color, 16 mm, Order No. MN 9346, $65.00, USN)* Illustrates the use of the rubber dam in restorative dentistry and shows, in detail, techniques of its application.

Temporary Plastic Bridges *(19 min., sd., color, 16 mm., 1964, Order No. PMF 5381, $65.00, USA)* A clinical demonstration of the construction of a temporary plastic bridge of four teeth.

Use of General Surgical Facilities by the Dental Service *(25 min., sd., color, 16 mm., $84.75, VA)* This film may be used fo familiarize the clinical dentist with general operating room procedures.

Various Methods of Fixation for the Control of Fractured Jaws *(45 min., sd., color, 16 mm., $153.00, VA)* Describes the known methods for the reduction of fractured jaw bones, including various traction methods of moving the bones and the constant fixation of splinting of bones.

The Vigil of Jenny Fay *(17 min., sd., b&w, 16 mm., Order No. MIS—649, $30.50, NMAC)* Discusses a study conducted by the U.S. Public Health Service in Kansas City to determine how dental care can be made available to the chronically ill in nursing homes and in private homes.

The following are additional Dental films produced by the Veterans Administration Dental Training Center in co-operation with the American Dental Association, The United States Navy and University Dental Schools.

ANATOMY—HEAD AND NECK

By: ***Dr. Harry Sicher***
Director of Research Training Program
Professor Emeritus, Anatomy
Loyola University, School of Dentistry

Boundaries of the Carotid Triangle *(12 min., sd., color, 16 mm., Order No. D-48A, $43.00)* Previous dissection of superficial structures of the lateral neck exposed the external layer of deep cervical fascia and portions of associated nerves and vessels. The dissection is continued to demonstrate the boundaries of the carotid triangle.

The Carotid Triangle *(11 1/2 min., sd., color, 16 mm., Order No. D-49A, $41.50)* Previous dissection demonstrated the superficial structures of the antero-lateral aspect of the neck and exposed the muscular boundaries of the carotid triangle. This film demonstrates the deep dissection of the carotid triangle and illustrates major structures with a series of drawings.

Lateral Neck Superficial Structures *(8 1/2 min., sd., color, 16 mm., Order No. D-47A, $30.25)* The vessels and nerves transversing the external cervical fascia are demonstrated in this dissection of superficial structures of the anterior and lateral neck. Diagrams are used for clarification.

The Parotid Gland and Facial Nerve *(14 min., sd., color, 16 mm., Order by Title, $49.50)* Previous dissection of the lateral neck exposed the inferior pole of the parotid gland. In this film the dissection of this area is completed, demonstrating the structures surrounding, contained in, and related to the gland itself.

The Pharynx Topographical Anatomy *(8 1/2 min., sd., color, 16 mm., Order by Title, $30.25)* The topography of the pharynx can be most advantageously viewed from the rear. In this film a window was created through the posterior neck of the cadaver for this purpose. The extent and volume that edema may assume in these areas is artificially produced by injecting water into the submucosa.

Submandibular Triangle *(13 min., sd., color, 16 mm., Order No. D-62A, $46.25)* This film demonstrates by dissection and illustrative drawings the boundaries and the structures of the submandibular triangle.

The Submental Triangle *(8 min., sd., color, 16 mm., Order No. D-51-A, $28.75)* The boundaries and relationship of the submental triangle are demonstrated in this dissection. Drawings are also used for clarification.

Temporo-Mandibular Joint *(9 min., sd., color, Order by Title, $32.00)* The anatomy and function of the temporo-mandibular joint is demonstrated by means of dissection and artists' illustrations.

The Thyroid Area *(6 min., sd., color, 16 mm., Order No. D-71A, $22.25)* Previous dissection of the anterior neck demonstrated the infra-hyoid musculature. This film demonstrates dissection of deeper structures of the thyroid area. Practical surgical applications are noted. The entire pretracheal area is reviewed diagrammatically.

The Tracheal Triangle *(8 min., sd., color, 16 mm., Order No. D-50A, $28.75)* The boundaries and major structures of the tracheal triangle, also known as the muscular or inferior carotid triangle, are demonstrated in this anterior neck dissection. Drawings are also used for clarification.

COMPLETE DENTURES

By: ***Edmund A. Travaglini, D.D.S.***
Assistant Director, Dental Training Center
Veterans Administration
Washington, D. C. 20422

Preliminary Impressions for Complete Dentures, Alginate Method *(12 min., sd., color, 16 mm., Order No. D-19-CP, $43.00)* Well planned and executed preliminary impressions for complete dentures can make a significant contribution to successful denture service. This film demonstrates a simple and efficient method of using wax modifications in stock trays to obtain primary impressions with alginate.

Final Mandibular Impressions for Complete Dentures *(11 1/2 min., sd., color, 16 mm., Order No. D-76CP, $41.50)* The mandibular impression procedure described covers the maximum bearing area while developing buccal and lingual flanges that provide border sealing without restricting the physiological activity of the adjacent structures. The resultant base constructed from impressions developed in this manner will exhibit excellent retention from both vertical and horizontal displacing forces.

Final Maxilliary Impressions for Complete Dentures *(11-1/2 min., sd., color, 16 mm., Order No. D-74CP, $41.50)* The procedures used to finalize the maxillary impression shown, includes the use and rationale of border moulding, development of functional reliefs and uniformity of contact over the bearing areas. The use of fluid wax to obtain a physiological post-palatal seal is also demonstrated.

By: ***Dental Service***
V. A. Hospital Center
Des Moines, Iowa

A Pre-Extraction Record of Vertical Dimension Using Plaster Bandage *(8 1/2 min., sd., color, 16 mm., Order No. D-65CP, $30.25)* This film demonstrates a simple procedure using plaster bandage to obtain accurate, permanent, pre-extraction records of vertical dimension.

DIAGNOSIS

By: ***The American Cancer Society***
The National Cancer Institute Public Health Service
U.S. Department of Health, Education, and Welfare

Oral Cancer—Extra-Oral Examination *(5 1/2 min., sd., color, 16 mm., Order No. D-11D, $20.50)* The palpation of the lymphatics of the neck is an important part of every examination to detect oral cancer. This film describes the location of the lymph nodes and demonstrates a methodical procedures for palpating this area.

By: ***Dental Training Center***
Veterans Administration Hospital
Washington, D.C.

Oral Cancer—Intra-Oral Examination *(5 1/2 min., sd., color, 16 mm., Order No. D-12-D, $20.50)* This film demonstrates a methodical procedure for examination of the intra-oral soft tissues. It also presents six cases of early cancer in this area and discusses their clinical signs.

ENDODONTICS

By: ***Duane E. Compton, D.D.S., M.S.D.***
Assistant Professor, Department of Endodontics
Indiana University at Indianapolis
School of Dentistry

Bleaching the Endodontically Treated Discolored Tooth *(* 16 mm., sd., color)* The objective of bleaching a nonvital discolored tooth is the restoration of normal color. This is accomplished by decolorizing the stain with a powerful oxidizing or reducing agent. This technique is demonstrated on an anterior central incisor.

*In production—request price

By: ***U. S. Department of Navy***

Diagnosis and Case Selection *(12 min., sd., color, 16 mm., Order No. D-14E, $43.00)* A guide to the dentist in diagnosing and deciding to treat patients by endodontic means. Uses radiographs, animation and live photography to illustrate endodontic treatment.

Filling the Root Canal *(12 1/2 min., sd., color, 16 mm., Order No. D-16E, $44.75)* This film emphasizes the precision required for complete obliteration of the root canal lest it continue to be a source of periapical irritation. It describes the aseptic precautions to be taken in strict bacterial cultural control.

Mechanical Preparation of the Root Canal *(15 1/2 min., sd., color, 16 mm., Order No. D-15E, $54.50)* Illustrates debridement, enlarging, irrigation, and chemical disinfection; emphasizes the aseptic precautions to be taken in strict bacterial culture control. The film presents close-ups of important detailed action in each of the steps listed above.

Surgical *(14 1/2 min., sd., color, 16 mm., Order No. D-13E, $51.00)* The process of periapical inflammatory reaction is explained in this film. It also demonstrates two surgical corrective procedures: Curettage and Root Resection.

By: ***Harry J. Healey, D.D.S., M.S.D., F.A.C.D.***
Professor and Chairman, Department of Endodontics
Indiana University at Indianapolis
School of Dentistry

Endodontic Therapy, Nonsurgical Approach *(* 16 mm., sd., color)* The bio-mechanical principles underlying the treatment of pulpless teeth are demonstrated in this film. Current concepts of endodontic treatment are seen.

*In production—request price

FIXED PARTIAL DENTURES

By: ***Frank Nealon, D.D.S.***
Staff Dentist
Veterans Administration Hospital
Cleveland, Ohio 44106

Extra-Oral Parallel Pin Procedure *(10 min., sd., color, 16 mm., Order No. D-20-FP, $35.00)* Parallel pins are classified as intra-oral and extra-oral. This film demonstrates the extra-oral technic where paralleling and depth of pin penetration are determined on a model with the use of a parallelometer. The resulting index is transferrable to the mouth for the drilling operation.

By: *Dr. Samuel Guyer*
Professor and Chairman
Department of Fixed Prosthodontics
School of Dentistry
Washington University
St. Louis, Missouri

Construction of Five Unit Bridge Part I—Abutment Preparation *(* 16 mm., sd., color)* The instrumentation for partial veneer crowns on three abutment teeth is demonstrated.

*In production—request price

Construction of Five Unit Bridge Part II—Temporary Bridge, Impressions, Construction of Master Cast *(* 16 mm., sd., color)* A temporary bridge of self-polymerizing resin is made, the methodology for making impressions in mercapton rubber demonstrated, and the laboratory procedures for producing a master cast with removable dies shown.

*In production—request price

Construction of Five Unit Bridge Part III—Wax-up of Bridge Using a Cone Technique to Develop a Harmonious Occlusal Pattern *(* 16 mm., sd., color)* The waxing planes of bridge construction including the development of the occlusal paths compatible with eccentric movement and positions, is demonstrated.

*In production—request price

By: *Joseph E. Ewing, D.D.S., Dental Service*
Veterans Administration Hospital
Indianapolis, Indiana

Horizontal Pin Splinting for Anterior Teeth *(11 1/2 min., sd., color, 16 mm., Order No. D-23FP, $41.50)* The horizontal pin splint is an effective method for stabilizing loose anterior teeth. The film depicts the use of the paralleling device and the procedure incident to produce the splint.

By: *Dr. Samuel Guyer*
Professor and Chairman
Department of Fixed Prosthodontics
Washington University
School of Dentistry
St. Louis, Missouri

Pontic Preparation—Labial Contour Gingival Adaptation *(11 min., sd., color, 16 mm., Order No. D-41FP, $38.25)* Definite steps are required for the proper esthetic and functional preparation of pontics for fixed partial dentures. The labial and gingival adaptation, essential for a harmonious relationship with the adjacent teeth and physiologic esthetic contact with ridge tissues, is shown.

Preparation of Pontics for Pin Reception and Lingual Contour *(10 min., sd., color, 16 mm., Order No. D-42FP, $35.00)* The procedures necessary to convert a denture tooth into a reverse pin pontic are shown and described. The lingual surface is prepared for a metal backing which will permit incisal translucency compatible with natural appearance. Staggered pin positions to serve as retentive elements are placed into the prepared surface.

Semi-Immediate Anterior Fixed Partial Denture with Reverse Pin Facing Assembly of Bridge and Delivery to Patient *(13 min., sd., color, 16 mm., Order No. D-43FP, $46.25)* The proper relationship of the retainers and pontics to the investing tissues is a most important esthetic and physiological consideration in any fixed prosthesis. A direct indirect assembly and finishing procedure to gain optimal appearance and function, is demonstrated.

Semi-Immediate Anterior Fixed Partial Denture with Reverse Pin Facing Impression Procedure Preparation of the Dies and Waxing Retainers *(14 min., sd., color, 16 mm., Order No. D-58FP, $49.50)* The film depicts the methodology of securing impressions for a fixed prothesis using mercaptan rubber following gingival retention: the procedures incident to producing accurate stone dies, and development of the wax patterns for three-quarter type retainers.

OCCLUSION

By: *Morris Feder, C.D.T., Assistant in Peridontology and*
Arnold S. Weisgold, Assistant Professor
University of Pennsylvania
School of Dental Medicine

Dynamics of Occlusion—Mandibular Teeth *(* 16 mm., sd., color)* The occlusing relationships of posterior mandibular teeth in centric and eccentric contacts are developed by means of negative wax carvings.

*In production—request price

Dynamics of Occlusion—Maxillary Teeth *(* 16 mm., sd., color)* The occluding relationships of posterior mandibular teeth in centric and eccentric contacts are developed by means of negative wax carvings.

*In production—request price

By: *Morton Amsterdam, Professor and*
Arnold S. Weisgold, Assistant Professor
University of Pennsylvania
School of Dental Medicine

Dynamics of Occlusion—Nomenclature *(* 16 mm., sd., color)* Models are used to define the basic contact and functional areas of maxillary and mandibular teeth. Their application in centric and eccentric occlusion is exhibited.

*In production—request price

By: *Arnold S. Weisgold and*
Leonard Abrams, Assistant Professors
University of Pennsylvania
School of Dental Medicine

Dynamics of Occlusion—Occlusal Adjustment of Natural Dentition by Selective Grinding *(* 16 mm., sd., color)* The procedures used to correct occlusal disharmonies are demonstrated on articulator mounted study casts.

*In production—request price

PATIENT EDUCATION

By: *Dental Training Center*
Veterans Administration Hospital
Washington, D.C.

Gail's Awakening *(11 min., sd., color, 16 mm., Order No. D-79ED, $38.25)* The importance of maintaining oral hygiene is described in this film fantasy. Time lapse photography is used to show the activity of oral bacteria and their relationship to the development of caries.

Thanks for the Dinner *(9 1/2 min., sd., color, 16 mm., Order No. D-73ED, $33.50)* Because of continued neglect Frank must have all his teeth extracted. His friend and former classmate, Dr. Renolds, convinces Frank that modern facilities and techniques have eliminated any cause for concern. After Frank receives his dentures, Dr. Renolds takes him to dinner, helps him overcome his initial anxieties and instructs Frank in the care and use of his protheses.

"Why Am I Here" *(9 min., sd., color, 16 mm., Order No. D-31ED, $32.00)* Mr. Roberts, who has been hospitalized for stomach problems, cannot understand why he has been referred to the Dental Service for oral examination. He soon learns the importance of early detection of cancer in this area. He is also shown the value of x-rays, the danger of oral sepsis, the desirability of replacing missing teeth, and the correct method of tooth brushing.

PERIODONTICS

By: ***D. Walter Cohen, D.D.S., Professor and Chairman***
Department of Periodontics and
Stanley E. Ross, D.D.S., Associate in Periodontics
University of Pennsylvania
School of Dental Medicine

Apically Repositioned Partial Thickness Flap to Eliminate Periodontal Pockets *(14 1/2 min., sd., color, 16 mm., Order No. D-25PE, $51.00)* The apically positioned partial thickness flap, demonstrated in this film, is used to eliminate periodontal pockets that extend apical to the muco-gingival junction. This procedure preserves and results in less root exposure post-operatively.

Circumferential Intracoronal Temporary Immobilization Technique *(12 1/2 min., sd., color, 16 mm., Order No. D-28PE, $44.75)* An effective method of stabilizing loose teeth is demonstrated. Circumferential wiring immobilizes the entire segment of teeth and is not esthetically undesirable because the wire is ultimately covered with resin.

Contiguous Osseous Tissue Autograft in Periodontics *(14 1/2 min., sd., color, 16 mm., Order by Title, $51.00)* A deep periodontal defect on the distal surface of a premolar is treated by a contiguous osseous tissue autograft. Bone removed from an edentulous ridge is used to fill this infrabony pocket. The rationale of this procedure is explained and post operative results are discussed.

Elimination of a Shallow Infrabony Pocket by Ostectomy in Retromolar Area *(9 1/2 min., sd., color, 16 mm., Order by Title, $33.50)* A shallow broad-based infrabony pocket is treated by ostectomy. After adequate access has been developed, the lesion is eliminated and physiologic osseous architecture is established.

Elimination of a Shallow Infrabony Pocket in Retromolar Area by Ostectomy *(14 min., sd., color, 16 mm., Order by Title, $49.50)* This film demonstrates the surgical elimination of a broad-based infrabony periodontal pocket. An internal beveled incision is used in creating a flap. Contouring of the alveolar process assures the establishment of physiologic osseous architecture. The rationale of this treatment is discussed and post operative results presented.

Free Osseous Tissue Autograft To Eliminate an Infrabony Pocket *(16 min., sd., color, 16 mm., Order No. D-26PE, $56.00)* The use of autogenous bone chips to fill an infrabony periodontal defect is demonstrated. This surgical procedure is performed *after* tooth movement had been accomplished and the teeth had been stabilized with a wire ligiture splint.

The Gingival Autograft in Periodontics *(14 min., sd., color, 16 mm., Order No. D-27PE, $49.50)* A gingival autograft is used to correct a periodontal pocket which extends to the muco-gingival junction. Insufficient attached gingiva is present. A pedical flap cannot be used because of insufficient gingiva adjacent to the involved tooth.

The Gingivectomy Procedure To Eliminate Suprabony Pockets *(14 min., sd., color, 16 mm., Order No. D-21PE, $49.50)* A gingivectomy is performed for the elimination of suprabony pockets. These are the periodontal type and involve the maxillary teeth. The rationale of this treatment is examined. Technical procedures are clearly presented and the use of selected instruments is shown. Postoperative results are also discussed in this film.

Laterally Positioned Flap in Periodontics *(14 1/2 min., sd., color, 16 mm., Order No. D-46PE, $51.00)* In this film, laterally positioned flaps are used to cover the denuded roots of a mandibular central incisor and maxillary molar. A partial or split thickness dissection is performed in order to leave periosteum at the doner sites.

Management of the Tuberosity Area in Periodontics *(11 1/2 min., sd., color, 16 mm., Order No. D-64PE, $41.50)* This film demonstrates the use of an internal beveled flap procedure in the treatment of an infrabony pocket involving a maxillary molar. Bony contouring creates physiologic architecture. The rationale of this procedure is explained and postoperative results are shown.

Osseous Surgery in the Maxilla—Part I *(17 1/2 min., sd., color, 16 mm., Order No. D-29PE, $61.00)* This film demonstrates the surgical elimination of supra and infra periodontal bony defects in the maxilla. The Osseous contouring to establish physiologic architecture of the soft tissues is shown in detail.

Osseous Surgery in the Maxilla—Suturing Technique—Part II *(10 1/2 min., sd., color, 16 mm., Order No. D-24PE, $36.75)* The suturing technique in this film was selected after the periodontal osseous surgery had been completed. It is one which permits suturing of the buccal flap, independently of the lingual or palatal flap. It is performed with a continuous suture and assures close adaptation of the tissue to the teeth and bone.

The Palatal Flap in Periodontics *(13 min., sd., color, 16 mm., Order No. D-44PE, $46.25)* The surgical management of osseous deformities involving the palatal and proximal periodontal areas is demonstrated in this film. A palatal flap is created using an internal beveled incision. This perserves the remaining attached gingiva and still permits access to the underlying alveolur process.

Pedicle Flap from Edentulous Area *(13 min., sd., color, 16 mm., Order No. D-30PE, $46.25)* This use of a pedicle flap to correct a periodontal lesion is demonstrated in this film. Since there was insufficient gingiva present at the site of the lesion, neither the gingivectomy nor apically repositioned flap procedures were indicated. The relocated pedicle flap re-established a sufficient width of gingiva. Two cases are demonstrated.

Treatment of Infrabony Pocket with Three Osseous Walls *(13 1/2 min., sd., color, 16 mm., Order No. D-45PE, $48.00)* This film demonstrates the surgical management of an infrabony pocket involving the maxillary premolar. The periodontal ligament and bone marrow are used to provide two sources of repair tissue. The teeth are then immobilized with an aid splint which is made of twisted wire imbedded with plastic in a prepared groove.

RADIOLOGY

By: ***Dental Training Center***
Veterans Administration Hospital
Washington, D.C.

Anatomic Landmarks in Panorex Radiography *(11 1/2 min., sd., color, 16 mm., Order No. D-17R, $41.50)* Because of the apparent complexity in the appearance of the Panoramic radiograph, a knowledge of the normal anatomy is essential for its interpretation. This film relates the anatomical structures of the maxilla and mandible to the radiolucencies and radiopacities seen in the panorex radiagraph.

Long Cone Technique *(11 min., sd., color, 16 mm., Order No. D-9R, $38.25, USN)* This film demonstrates the superiority of films produced by the "long cone" technique and illustrates in detail the placement of film to produce images with the best anatomical accuracy.

Panographic Diagnostic Pathology Radiolucencies—Part I *(10 1/2 min., sd., color, 16 mm., Order No. D-38R, $36.75)* This film illustrates the radiographic findings in a number of well-documented cases. Few are radiographically diagnostic. The majority present features which are exhibited by a number of pathologic entities. It is essential, therefore, to recognize the abnormal, provide differential diagnosis, and establish a definitive diagnosis with every means available. Etiology and treatment are discussed. This is the first in a series of two films on this subject.

Panographic Diagnostic Pathology Radiolucencies—Part II *(18 1/2 min., sd., color, 16 mm., Order No. D-39R, $30.25)* Abnormal radiolucencies appearing in a series of panographic radiographs are presented. Etiology and treatment are discussed. This is the second in a series of two films on this subject.

Panographic Diagnostic Pathology Radiopacities *(8 1/2 min., sd., colgr, 16 mm., Order No. D-40-R, $30.25)* This film illustrates the radiographic findings in a number of well-documented cases. Few are radiographically diagnostic. The majority present features which are exhibited by a number of pathologic entities. It is essential, therefore, to recognize the abnormal, provide differential diagnosis, and establish a definite diagnosis with every means available.

Principles of X-Radiation *(16 min., sd., color, 16 mm., Order No. D-8R, $56.00, USN)* This film emphasizes control of radiation exposure by means of filtering, use of fast film and increase of distance. It also explains use of increased KV for optimal penetration, control of radiation exposure and improvement of image quality.

REMOVABLE PARTIAL DENTURES—CLASP TYPE

By: ***Franklin W. Smith, D.D.S.***
Associate Professor of Dentistry
Chairman, Partial Denture Department
School of Dentistry
University of Michigan

Clasp Type—Clinical and Laboratory Procedures—Constructing the Occlusal Template—Arrangement of Teeth—Laboratory Procedure *(11 1/2 min., sd., color, 16 mm., Order No. D-67-RP, $41.50)* When the occlusal path record has been successfully completed an occluding template that incorporates all the excessive movements and static positions is constructed for a simple hinge type articular. The replacement teeth are adjusted and properly fitted to the opposing occlusion in harmony with existing dentation and the components of occlusion.

Clasp Type—Clinical and Laboratory Procedures—Finishing, Occlusal Correction, Insertion and Adjustment *(12 1/2 min., sd., color, 16 mm., Order No. D-68RP, $44.75)* Relief and adjustment of critical areas of the framework and saddles of the removable partial denture will contribute to the continued oral health of the oral tissues. The areas requiring modification and occlusal adjustments by both laboratory remounting and direct check bites are systematically presented.

Clasp Type—Clinical and Laboratory Procedures—Impression and Preparation of the Master Cast for the Laboratory *(12 min., sd., color, 16 mm., Order No. D-66RP, $43.00)* The impression procedures using alginate to produce accurate casts are shown. The surveyor is used on the resultant cast to determine the accuracy of the planned mouth preparations. Relief wax is added to areas of the master cast necessary to create proper relief for freedom and function. The content of an adequate work authorization for the laboratory is given.

Clasp Type—Clinical and Laboratory Procedures—Mouth Preparation Procedures *(12 1/2 min., sd., color, 16 mm., Order No. D-61RP, $44.75)* Following the development of a detailed treatment plan, mouth preparation procedures are initiated as outlined. The film demonstrates the preparation of abutment teeth for three-quarter crons and splinting, impression procedures and surveying of the patterns incident to developing guide planes and positive retentive areas.

Clasp Type—Clinical and Laboratory Procedures—Pre-Delivery, Casting Adjustment—Laboratory Procedure *(9 min., sd., color, 15 mm., Order No. D-69-RP, $32.00)* Certain arbitrary relief procedures should be accomplished on the removable partial denture casting to remove any potential interferences that may resist complete seating of the appliance. The area that required adjustment and the methods to obtain the necessary alterations are graphically described.

Clasp Type—Clinical and Laboratory Procedures—Preliminary Examination and Procedures for Diagnosis *(12 1/2 min., sd., color, 16 mm., Order No. D-59RP, $44.75)* The examination is the basis for diagnosis. Extra-oral inspection, as well as careful examination of the soft and hard intraoral tissues, the preliminary impressions and the interocclusal record to mount the study casts are presented in orderly sequence.

Clasp Type—Clinical and Laboratory Procedures—Preliminary Survey of Study Cast—Tentative Design and Detailed Treatment Planning *(11 min., sd., color, 16 mm., Order No. D-60 RP, $38.25)* The planning for treatment is based on the information achieved from mounted study casts, the oral examination, radiographs, general patient information, as well as an accurate survey of the casts. These procedures are explained in detail and the tentative design of the appliance, compatible with the oral conditions and biological requirements, developed.

Clasp Type—Clinical and Laboratory Procedures—Recording Edentulous Ridge Contour—Correctable Wax Impressions *(16 min., sd., color, 16 mm., Order No. D-52RP, $56.00)* The methodology for fluid wax impressions of the edentulous ridges in distal extension removable partial dentures, is demonstrated. This procedure is intended to enhance the stability and retention of the prosthesis and reduce the stress on the remaining teeth.

Clasp Type—Clinical and Laboratory Procedures—The Occlusal Path Record *(15 min., sd., color, 16 mm., Order No. D-53-RP, $52.75)* The gererated path or occlusal path record is a relatively simple method of developing a harmonious occlusion, particularly when artificial teeth must oppose natural dentation. This method makes it possible to record jaw relations under actual mastication conditions. The technical procedures incident to registering the occlusal path are demonstrated. The technical procedures incident to registering the occlusal path are demonstrated.

SURGERY

By: ***Noah R. Calhoun, D.D.S., M.S.D.***
Oral Surgeon
V.A.H. Washinton, D.C.
Visiting Professor, Oral Surgery
Howard University, College of Dentistry
Washington, D.C.

Closure of Antro-Oral Fistula—Rotation of Pedicle Palatal Flap *(10 min., sd., color, 16 mm., Order No. D-54S, $35.00)* Accidental openings in the floor of the antrum may occur during the extraction of teeth. This film demonstrates an accepted surgical method of closing palatal flap. The post-operative use of a stent is demonstrated and the need to understand the post-operative course is stressed.

By: ***Louis Loscalzo, D.D.S.***
VA Hospital, Bronx, New York
Clinical Professor, Oral Surgery
Columbia University
School of Dental and Oral Surgery
New York, New York

Enucleation of a Mandibular Radicular Cyst *(6 1/2 min., sd., color, 16 mm., Order No. D-75S, $23.75)* Complete enucleation is generally considered to be the operative treatment of choice for uncomplicated cysts. This film demonstrates the procedures involved in the surgical removal of a radicular cyst and primary closure of the wound.

Extraction of Mandibular Teeth (Surgical Preparation) *(11 min., sd., color, 16 mm., Order No. D-57S, $38.25)* This film demonstrates accepted surgical procedures used in the removal of the mandibular teeth and preparation of the alevolar ridge. Emphasis is placed on maintenance of the denture bearing bone.

Extraction of Maxillary Teeth (Surgical Preparation) *(13 1/2 min., sd., color, 16 mm., Order No. D-56S, $48.00)* When attached gingivia has been reduced by periodontal disease, every effort should be made to preserve it during extraction of the teeth. This film demonstrates accepted procedures for the removal of maxillary teeth and shows the surgical preparation of the alveolar ridge.

By: ***Thomas Pinson, D.D.S.***
Associate Dean of Dental College
Howard University, Washington, D.C.
Chairman, Hospital Dentistry
Freedman Hospital, Washington, D.C. and
Noah R. Calhoun, D.D.S.
Oral Surgeon, VA Hospital
Visiting Professor, Howard University
Washington, D.C.

Fracture, Middle Third of Face—Open Reduction and Fixation with Frontozygomatic Wiring *(* 16 mm., sd., color)* A method of fixation of a horizontal fracture of the maxilla through lateral brow incisions is demonstrated.

*In Production—request price

By: ***University of Michigan Medical School***
University of Michigan Dental School
Veterans Administration Hospital
Ann Arbor, Michigan

Immediate Custom Implant for the Mandible *(13 min., sd., color, 16 mm., Order by Title, $46.25)* Sections of the mandible, lost through injury or disease, can be satisfactorily replaced with an immediate, custom fitted implant of surgical vitalium. The abutments of the prosthesis are fabricated at time of surgery using a rapid-jel casting procedure.

By: ***Noah R. Calhoun, D.D.S.***
Oral Surgeon, VA Hospital
Visiting Professor, Howard University
Washington, D.C. and
Thomas Pinson, D.D.S.
Associate Dean of Dental College
Howard University, Washington, D.C.
Chairman, Hospital Dentistry
Freedman Hospital, Washington, D.C.

Open Reduction and Fixation—Fracture of Mandible at the Angle—The Submandibular Approach *(* 16 mm., sd., color)* The open reduction and fixation of a mandibular fracture at the angle by the submandibular approach is demonstrated.

*In production—request price

By: ***Noah R. Calhoun, D.D.S., M.S.D., F.A.C.D.***
Oral Surgeon, V.A.H., Washington, D.C.
Visiting Professor, Oral Surgery
Howard University, College of Dentistry, Washington, D.C..

Surgical Excision of Oral Leukoplakia *(6 1/2 min., sd., color, 16 mm., Order by Title, $23.75)* Extensive areas of leukoplakia in the oral cavity frequently present problems in diagnosis and treatment. The surgical removal of one such area, utilizing a stripping technique, is demonstrated. Microscopic findings are presented in detail.

By: ***Louis Loscalzo, D.D.S.***
Veterans Administration Hospital, Bronx, New York
Clinical Professor, Oral Surgery
Columbia University, School of Dental and Oral Surgery
New York, New York

Surgical Reduction of the Maxillary Ruberosity *(12 1/2 min., sd., color, 16 mm., Order No. D-55S, $44.75)* Reduction of the maxillary tuberosity is considered by some prosthodontists as a neglected factor in the construction of dentures. Adequate space to accommodate dentures is not always present in the tuberosity area. Frequently only the occlusal aspect is reduced when correcting this problem, whereas the critical posterio-lateral aspect is neglected. A recommended surgical procedure is demonstrated in a number of cases.

Surgical Removal of Impacted Mandibular Third Molar *(6 min., sd., color, 16 mm., Order No. D-72S, $22.25)* An accepted technique for the surgical removal of a mesio-angular impacted mandibular third molar is demonstrated. Controlled sectioning of the tooth utilizing a bur and elevator is shown.

Surgical Removal of Impacted Maxillary Third Molar *(4 1/2 min., sd., color, 16 mm., Order No. D-70S, $17.25)* Clinical demonstration of the surgical removal of a disto-angular maxillary third molar impaction is presented in this film.

By: ***George W. Hahn, D.D.S.***
Veterans Administration Hospital
Dallas, Texas

Use of the Malleable Mesh in the Reduction and Fixation of Jaw Fractures *(11 min., sd., color, 16 mm., Order No. D-77S, $38.25)* In the reduction of jaw fractures, where an insufficient number of natural teeth are present to provide secondary support, a workable metal mesh can be used effectively. This current single concept demonstrates the adaptation and fixation of the mesh on a manikin and in the operating room.

DIGESTIVE SYSTEM

The Intestinal Biopsy Capsule *(6 min., sd., color, 16 mm., Order No. PMF 5337, $21.25, USA)* Depicts the features, use, and operation of the intestinal biopsy capsule devised by the Walter Reed Army Medical Center to study disease and normal functioning of the small intestine. Shows how the capsule, swallowed orally by the patient, makes possible single and several simultaneous biopsies at different levels of the small intestine.

Intra-Oral and Pharyngeal Structures and Their Movements *(23 min., sd., color, 16 mm., $78.50, VA)* Illustrates the physiological activity of the tongue, soft palate, and epiglottis in a patient who suffered the loss of a portion of the face as the result of a cancer in the maxillary sinuses.

EMERGENCY CARE

Emergency Medical Care—Control of Bleeding *(20 min., sd., color, 16 mm., 1966, Order No. TF 8-3692, $68.25, USA)* Teaches non-medical personnel the techniques to be employed in the control of bleeding, during the aftermath of a disaster situation.

Emergency Medical Care—Shock *(17 min., sd., color, 16 mm., 1966, Order No. TF 8-3693, $58.50 USA)* Teaches non-medical personnel how to prevent or control shock in cases of serious injury or wound.

Hands of Action *(40 min., sd., color, 16 mm., Order No. M-1455-X, $133.75, NMAC)* This film depicts a doctor instructing ambulance attendants in emergency medical care. Using laymen's language and graphic examples, the doctor explains the recommended procedure for handling the following: 1. blocked airways, 2. bleeding, 3. open wounds, 4. broken bones.

THE PRICE OF SURVIVAL

(28 min., sd., color, 16 mm., Order No. M-1510, $97.75, NMAC)

This is an open-end film divided into three sections with two intermissions for discussion. The first sequence realistically depicts the reactions of a hospital staff and local citizens to disaster. Hospital staff members analyze their reactions, criticize their disaster plan. The second section portrays the preparation and planning necessary to correct the weak points in the hospital's disaster plan. The final section illustrates a successful test of the improved disaster plan. Designed for community leaders in medical and health professions and other related agencies.

Restriction: Organizations wishing to purchase the film must first request written permission from the Chief of Training, Division of Emergency Health Services, Public Health Service, U.S. Department of Health, Education, and Welfare, 6935 Wisconsin Avenue, Chevy Chase, Maryland 20015.

MEDICAL SELF-HELP SERIES

This series of eleven films is designed as an instructional vehicle in presenting the Medical Self-Help Training Course which teaches the individual how to take care of many of his medical and health needs in time of disaster when medical assistance might not be readily available.

No. 1	**Radioactive Fallout and Shelter**
No. 2	**Healthful Living in Emergencies**
No. 3	**Artificial Respiration**
No. 4	**Bleeding and Bandaging**
No. 5	**Fractures and Splinting**
No. 6	**Transportation of the Injured**
No. 7	**Burns**
No. 8	**Shock**
No. 9	**Nursing Care of the Sick and Injured**
No. 10	**Infant and Child Care**
No. 11	**Emergency Childbirth**

Sound, color, 16 mm. Films will only be sold as a series from 1 through 10, $675.00 or with fiber shipping cases $703.00 or 1 through 11, $750.00 or with fiber shipping cases $781.00.

Restrictions: Organizations wishing to purchase the films must first request written permission from the Chief of Training, Division of Emergency Health Services, Public Health Service, U.S. Department of Health, Education, and Welfare, 6935 Wisconsin Avenue, Chevy Chase, Maryland 20015.

ENVIRONMENTAL HEALTH

Air Force Industrial Medicine in Action *(19 min., sd., color, 16 mm., Order No. TF 1-8170, $65.00, USAF)* Portrays the duties of an Air Force industrial medicine team as its members perform their important mission of maintaining productivity through the promotion of health and the prevention of illness.

Air Polution in the New York-New Jersey Interstate Area *(15 min., sd., color, 16 mm., Order No. M-1624-X, $51.75, NMAC)* Illustrates the interstate nature of air pollution and deals with two of the major pollutants; sulfur dioxide and carbon monoxide. It discusses the harmful effects of both gases, and the seriousness of air pollution in this seventeen county bi-state area.

Appraising Soils for Soil Absorption Systems *(18 min., sd., b&w, 16 mm., Order No. M-50b, $32.00, NMAC)* Explains the theory of soil absorption; demonstrates soil absorption characteristics and tests; discusses the relationship of test findings to the size and construction of the tile absorption field. User should supplement film with current data.

Cleaning Equipment and Containers *(28 min., sd., b&w, 16 mm., Order No. MIS-175, $48.75, NMAC)* Demonstrates methods for cleaning and bactericidal treatment of cans, bottles, piping, and other equipment following the routine of flush, scrub, rinse, and sterilize. User should supplement film with current data.

Constructing a Sanitary Pit Privy *(15 min., sd., color, 16 mm., Order No. 4-083, $51.75, NMAC)* Demonstrates the public health values of the sanitary pit privy, the principles of sanitation involved in its construction and construction procedures. Recommended for professional use.

Constructing a Typical Household System *(14 min., sd., b&w, 16 mm., Order No. M-50C, $25.50, NMAC)* Explains the principles and procedures involved in the construction and maintenance of a septic tank and subsurface disposal system, including site inspection and layout, installation of the septic tank, constructing the tile drainage field, sanitary inspection, and yearly maintenance. User should supplement film with current data.

Control of Air Pollution *(5 min., sd., color, 16 mm., Order No. MIS-676, $18.00, NMAC)* Acquaints the viewer with the relationship between our modern, technological way of life and air pollution. It stresses the need for expanded research and for increased control effort.

Drilling a Well by the Percussion Method *(6 min., sd., color, 16 mm., Order No. M-46, $21.25, NMAC)* Explains the percussion well-drilling rig, the well-drilling tool, procedures in drilling the well, installation of casings, and use of a bailer in removing sludge and dirty water. User should supplement film with current data.

Effects of Air Pollution *(5 min., sd., color, 16 mm., Order No. MIS-678, $18.00, NMAC)* Acquaints the viewer with the relationship between our modern technological way of life and air pollution. It gives examples of adverse effects on health, agriculture, and our total economy.

Food Preparation *(13 min., sd., color, 16 mm., Order No. M-148d, $45.25, NMAC)* Portrays cooking operations in preparing a typical meal in a medium-sized restaurant and emphasizes the important sanitary precautions taken by the kitchen personnel in the preparation and handling of the food.

Health Hazards of Pesticides *(14 min., sd., color, 16 mm., Order No. M-204, $48.50, NMAC)* Emphasizes the potential public health hazards resulting from the widespread use of pesticides, explains the work of the Communicable Disease Center's toxicology laboratories in measuring this hazard, and makes recommendations for the safe use of pesticides.

High-Temperature Short-Time Pasteurization: Inspection and Testing *(25 min., sd., color, 16 mm., Order No. M-391, $84.75, NMAC)*

Designed to train inspection personnel in the procedures for testing the functioning and accuracy of high-temperature short-time pasteurization controls, in accordance with the standard milk ordinance.

Hospital Food Service Personnel Training, Part III: Equipment *(12 min., sd., b&w, 16 mm., Order No. TF 8-1577, $22.25, USA)* How to clean kitchen equipment; loosen, dissolve, and emulsify dirt; rinse and dry equipment; and prevent food poisoning.

Hospital Food Service Personnel Training, Part II: The Individual *(13 min., sd., b&w, 16 mm., Order No. TF 8-1576, $23.75, USA)* Ways to prevent communicable diseases associated with improper food handling; health, cleanliness, personal appearance, and sanitary work habits.

Hospital Food Service Personnel Training, Part I: Introduction *(16 min., sd., b&w, 16 mm., Order No. TF 8-1841, $28.50, USA)* Shows the departments, equipment, menu planning, and food preparation procedures typical of hospital food service.

Hospital Food Service Personnel Training, Part IV: Serving Food *(15 min., sd., color, 16 mm., Order No. TF 8-1578, $51.75, USA)* Emphasizes principles of good food preparation and service in hospitals proper temperature, correct quantity, selection of food to meet patient's requirements, and courteous attention by food service personnel.

Hospital Food Service Safety *(15 min., sd., color, 16 mm., Order No. M-1524-X, $51.75, NMAC)* This film illustrates ways of preventing common accidents in a large food service facility. Storage equipment, and food service techniques are discussed. Emphasis is on "Think Safe."

Hospital Housekeeping: Mopping Two Bucket Method *(9 min., sd., color, 16 mm., Order No. M-1324, $31.00, NMAC)* Instructs maintenance personnel in mopping hospital floors, using an efficient and thorough method to get more work accomplished and kill more germs in the process.

Hospital Housekeeping: Wet Pick Up *(7 min., sd., color, 16 mm., Order No. M-1325, $24.50, NMAC)* Instructs maintenace personnel in the best method and procedure for cleaning the floor of the operating room after an operation.

Incineration *(13 min., sd., color, 16 mm., Order No. M-353, $45.25, NMAC)* A filmograph which discusses the principles of incineration and explains the method as a means of sanitary refuse disposal.

Infectious Hepatitis—Unwanted Souvenir *(19 min., sd., color, 16 mm., Order No. MN 10394, $65.00, USN)* How infectious hepatitis affects its victims and how it is spread. Guides for eating in public restaurants and for food preparation at home and aboard ship. Especially useful to personnel and dependents living and on liberty overseas.

Introduction to Swimming Pool Sanitation *(24 min., sd., color, 16 mm., Order No. M-402, $81.50, NMAC)* An introductory lecture for courses in swimming-pool sanitation.

It Must Be the Neighbors *(14 min., sd., color, 16 mm., Order No. M-1161, $48.50, NMAC)* Emphasizes the relationship between good premises sanitation and freedom from mosquitoes, flies, cockroaches, and rodents and shows how refuse handling improvements may play an important part in the eradication of disease vectors. It enlists the support of all age groups in the community to improve premises sanitation.

Kitchen Habits *(12 min., sd., color, 16 mm., Order No. M-148g, $42.00, NMAC)* Shows, under actual operating conditions in a kitchen, the importance of developing good habits relating to food sanitation; stresses individual awareness of personal responsibility and effective supervision to develop these habits.

Milk and Public Health *(12 min., sd., b&w, 16 mm., Order No. M-7, $22.25, NMAC)* Points out the dangers of haphazard milk production, the resultant public health problem, and the need for regulatory legislation, and reviews the steps taken to insure healthy cows, sanitary equipment and supplies, and other hygienic methods throughout the production and processing of milk.

Municipal Sewage Treatment Processes *(13 min., sd., b&w, 16 mm., Order No. M-6, $23.75, NMAC)* Shows the equipment and explains the processes used by U.S. cities to reduce sewage to harmless effluent and solids, thus protecting the health of residents and conserving water resources.

Pandora's Easy Open Pop-Top Box *(16 min., sd., color, 16 mm., Order No. M-1640-X, $55.00, NMAC)* According to the ancient Greeks the first woman upon whom the Gods bestowed their choicest gifts was Pandora, but Zeus the all-powerful also gave her a box which he commanded her never to open. Curiosity overcame her and she lifted the lid of the box, and all forms of misery and evil flew out. Is the onrush of urbanization opening a Pandora's box upon our land and its people? This film was designed to speak for itself, by contrasting the sound and fury of the city with the serene unspoiled countryside.

Preventive Medicine: A USAF Team in Action *(18 min., sd., color, 16 mm., Order No. TF 1-8163, $61.75, USAF)* Explains the field of preventive medicine including mental hygiene, epidemics, water supply, food inspection, nutrition, and the control and prevention of communicable diseases. Gives an example of an Air Force team of preventive medicine officers analyzing, step by step, the cases of two officers who became very ill during a flight from Africa.

Principles of Operation and Design *(10 min., sd., b&w, 16 mm., Order No. M-50-a, $17.50, NMAC)* Explains the basic principles of the function, design, and layout of septic tanks for sewage disposal systems. Consists pictorially of graphics and models. User should supplement film with current data.

Public Health Aspects of Poultry Processing *(23 min., sd., color, 16 mm., Order No. M-199, $78.25, NMAC)* Explains the problems of public health significance associated with the processing, storage, transportation, and sale of commercially processed poultry. Recommends enforcement of the poultry sanitation ordinance developed by the U.S. Public Health Service in co-operation with State and local agencies.

Public Health Problems in Mass Evacuation *(13 min., sd., b&w, 16 mm., Order No. M-220, $23.75, NMAC)* Explains the public health problems attending the mass evacuation of an urban population, including mass feeding, water supply, medical care, waste and sewage disposal, and disease outbreaks. User should supplement film with current data.

Radioactive Waste Disposal *(24 min., sd., color, 16 mm., Order No. M-443, $81.50, NMAC)* Shows extreme precautions used at the National Institute of Health in handling radioactive waste and the care used in its ultimate disposal in the ocean.

Refuse Disposal by Sanitary Landfills *(13 min., sd., color, 16 mm., Order No. M-228, $45.25, NMAC)* Describes faults of disposal methods such as open dumps, and compares the vector-borne disease and nuisance hazards of these methods to those of landfills. Shows how to select a site, types of equipment used, how to construct a landfill, different types of operating procedures, and overall contributions of sanitary landfills to public health.

Sanitary Storage and Collection of Refuse *(19 min., sd., color, 16 mm., Order No. M-4, $65.00, NMAC)* Shows operations essential to the sanitary handling and storage of refuse by individual citizens; and the municipal collection of such refuse from homes, restaurants markets, and other sources.

Serving Food *(11 min., sd., color, 16 mm., Order No. M-148f, $37.25, NMAC)* Portrays the hiring of a waitress and shows the orientation and induction training given to her by a restaurant hostess, including instruction in the proper storage of cups, dishes, and glasses; cleanliness; correct ways of clearing tables; protecting the waitresses' health; safeguards against disease.

Shipboard Inspection by Medical Department Personnel: Food Preparation *(25 min., sd., b&w, 16 mm., 1958, Order No. MN 8238-d,*

$43.75 USN) Shows how to make an inspection of the various areas of possible contamination in the preparation of food aboard ship. Discusses sanitary equipment and spaces, sanitary personnel, and sanitary work habits. Designed primarily for use of medical officers and hospital corpsmen.

Shipboard Inspection by Medical Department Personnel: Food Serving *(13 min., sd., b&w, 16 mm., 1958, Order No. MN 8238-e, $23.75, USN)* Shows how to make an inspection of such food-serving areas as the messing areas, serving line, and the scullery. Designed primarily for use of medical officers and hospital corpsmen.

Shipboard Inspection by Medical Department Personnel: Food Storage *(12 min., sd., b&w, 16 mm., 1958, Order No. MN 8238-c, $22.25, USN)* Shows how to make a sanitary inspection of the storage of food aboard ship. Covers such subjects as cleanliness, air circulation, temperature, and stowage. Designed primarily for use of medical officers and Navy hospital corpsmen.

Shipboard Inspection by Medical Department Personnel: Living and Working Spaces *(20 min., sd., b&w, 16 mm., 1958, Order No. MN 8238-b, $35.25, USN)* Shows what and how to inspect in order to insure good conditions of sanitation, ventilation, lighting, and safety in the living and working spaces of a ship.

Shipboard Inspection by Medical Department Personnel: Water Supply *(21 min., sd., b&w, 16 mm., 1958, Order No. MN 8238-a, $37.00 USN)* Shows how and where to inspect a ship's fresh-water supply at the points of possible contamination.

Sources of Air Pollution *(5 min., sd., color, 16 mm., Order No. MIS-677, $18.00, NMAC)* Acquaints the viewer with the relationship between our modern technological way of life and air pollution. It shows the principal sources of air pollution.

Stowaway—Part I—Disease and Personal Hygiene *(17 min., sd., b&w 16 mm., Order No. TF 8-1501, $30.50, USA)* Obvious and obscure ways in which disease is spread by food-handling personnel.

Stowaway—Part II—Galley Sanitation *(17 min., sd., b&w, 16 mm., Order No. TF 8-1502, $30.50, USA)* Sanitary measures for use in all food service organizations to prevent spread of disease.

A Survey of Refuse Disposal Methods *(10 min., sd., color, 16 mm., Order No. M-328, $34.00, NMAC)* A filmograph. Demonstrates the advantages and disadvantages of methods of refuse disposal—ranging from open dumps, dumping in ocean and rivers, and back-yard burning to scientifically engineered metropolitan incineration and sanitary landfills.

Team Work for a Controlled Environment *(24 min., sd., color, 16 mm., Order No. TF 1-8165, $81.50, USAF)* Stresses the importance of healthful living and working conditions at Air Force installations and shows how a successful preventive-medicine program is dependent upon the continuing joint efforts of the various activities concerned.

The Watch on Health *(13 1/2 min., sd., color, 16 mm., Order No. M-1061, $47.00, NMAC)* Describes briefly the historic high points and current programs of the Public Health Service.

What Happened to Mooretown *(19 min., sd., b&w, TFR, 16 mm., Order No. M-1449-x, $33.75, NMAC)* A high disease incidence neighborhood takes action to correct its communicable disease problems in this film of a Shreveport, Louisiana, community. Shows how the mayor, health director, president of the neighborhood health council, and public works directors co-operate with official agencies in improving housing, sewage disposal, vector control, and general environmental sanitation.

You and Your Job *(10 min., sd., b&w, 16 mm., Order No. MIS-173, $17.50, NMAC)* Emphasizes and illustrates the concept that trained responsible men are essential in the processing of safe, pasteruized milk. For milk handlers and sanitarians.

EYES

Clinical Tonometry *(7 min., sd., b&w, 16 mm., Order No. M-593, $12.50, NMAC)* Describes the glaucoma syndrome and the use of the Schiotz tonometer, and emphasizes the importance of the measurement of intra-ocular pressure to detect incipient glaucoma. Similarly, the rationale of including the tonometry test as a regular procedure of the complete physical examination is stressed.

Color Vision Deficiencies: Definition and Evaluation *(20 min., sd., color, 16 mm., Order No. MN 8246, $68.25, USN)* Explains the importance of color discrimination; shows how individual color vision deficiencies perceive the spectrum; defines three types of color vision deficiencies and shows color confusions involved in each type. Demonstrates mild, moderate, and severe degrees of defects for one type of color vision deficiency and shows applications involved. Shows procedure for administering approved tests for color vision deficiencies, such as the pseudo-isochromatic plate test and the Farnsworth lantern test. Designed primarily for medical personnel.

Eye Treatments *(14 min., sd., b&w, 16 mm., Order No. MN 8576 H, $25.50, USN)* Presents the responsibilities of hospital corpsmen in providing certain simple eye treatments, as ordered by medical officers in wards of naval hospitals. Demonstrates in detail the following treatments: examination of the ointment; irrigation of the eye; and application of moist heat and cold to the eye by compresses.

Indentation Tonometry Technique in Glaucoma Detection *(6 3/4 min., sd., color, 16 mm., Order No. M-1286, $24.50, NMAC)* Depicts the use and maintenance of the tonometer in performance of the glaucoma screening test.

FIRST AID

Bandaging for Hospital Corpsmen *(24 min., silent, b&w, 16 mm., Order No. MN 9319 a-q, $42.25, USN)* Seventeen loop films 50 to 100 seconds in length, demonstrating the proper application of various bandages on the head, chest, back, shoulder, ankle, jaw, hip, finger, hand, eyes etc.

First Aid—Part III—Burns *(14 min., sd., color, 16 mm., 1960, Order No. TF 8-2588, $48.50, USA)* Shows symptoms of lst, 2nd, and 3rd degree burns; first aid for serious burns caused by flame, hot liquid, white phosphorus, acid, and alkali.

First Aid, Part IV: Resuscitation, Mouth-to-Mouth, Mouth-to-Nose *(23, min., sd., color, 16 mm., Order No. TF 8-3021, $78.25, USA)* Compares mouth-to-mouth and mouth-to-nose resuscitation with other methods of artificial respiration. Demonstrates the application of mouth-to-mouth resuscitation, thumb jaw-lift, two hands jaw-lift and mouth-to-nose techniques.

First Aid for All Hands *(13 min., sd., b&w, 16 mm., 1959, Order No. MN 8188-a, $23.75, USN)* Establishes the framework of six films by presenting a systematic approach to the examination of an injured person and by establishing the priority for various first aid treatment procedures.

First Aid for All Hands: Asphyxia *(15 min., sd., b&w, 16 mm., 1959, Order No. MN 8188-b, $27.00, USN)* Shows how to recognize and treat asphyxia, points out some precautions to observe in rescuing asphxiated persons; demonstrates methods of applying artificial respiration, with emphasis upon the basic elements inherent in all methods.

First Aid for All Hands: Bleeding *(15 min., sd., b&w, 16 mm., 1959, Order No. 8188-c, $27.00, USN)* Shows how to recognize and treat injuries involving various kinds of bleeding. Includes examples of life-threatening bleeding. Demonstrates in detail how and when to use the pressure dressing, elevation, or the tourniquet.

First Aid for All Hands: Burns *(12 min., sd., b&w, 16 mm., 1959, Order No. MN 8188-e, $22.25, USN)* Explains how to recognize the severity of a burn. Shows how to give first aid for a thermal or chemical burn; demonstrates how to relieve pain, prevent shock, and prevent infection.

First Aid for All Hands: Fractures *(24 min., sd., b&w, 16 mm., 1959, Order No. MN 8188-d, $42.25, USN)* Shows how to recognize and treat a fracture, with emphasis upon fractures of the extremities, skull, spine, and pelvis. Special attention is given to the care necessary in handling these fractures.

First Aid for All Hands: Handling and Transporting *(13 min., sd., b&w, 16 mm., 1959, Order No. MN 8188-f, $23.75, USN)* Outlines the principles for handling and transporting of injured persons.

First Aid for Bleeding *(21 min., sd., color, 16 mm., Order No. MN 8182, $71.50, USN)* Shows how to recognize the three types of bleeding arterial, venous, and capillary and how to treat each type.

First Aid for Burns *(23 min., sd., color, 16 mm., Order No. MN 8185, $78.25, USN)* Explains the first aid treatment for burns to relieve pain, to prevent or treat shock, and to prevent infection. Emphasizes the necessity for giving prompt and appropriate first aid care. Designed primarily for use with Navy hospital corpsmen.

First Aid for Fractures: Introduction *(15 min., sd., color, 16 mm., Order No. MN 8184-a, $51.75, USN)* Explains recognition and general first aid treatment of fractures, with emphasis on fractures of the extremities. Includes descriptions of the basic types of fractures greenstick, impacted, and comminuted.

First Aid for Fractures: Skull, Spine, and Pelvis *(13 min., sd., color, 16 mm., Order No. MN 8184-b, $45.25, USN)* Explains the seriousness of fractures of the skull, spine, and pelvis. Through a series of simulated cases, aboard ship and in the field, depicts specific procedures for recognizing and treating each of these types of fractures.

First Aid for Fractures: The Thomas Leg Splint *(8 min., sd., b&w, 16 mm., Order No. MN 8184-e, $14.25, USN)* Demonstrates step-by-step how to apply a Thomas leg splint (half-ring) to immobilize any fracture of the thigh, knee, or leg.

First Aid for Fractures: The Triangular Arm Splint *(6 min., sd., b&w, 16 mm., Order No. MN 8184-c, $11.00, USN)* Demonstrates step-by-step how to apply a triangular arm splint, and shows how it is employed in combination with a single padded basswood splint for fractures of the upper or lower arm.

First Aid for Fractures: The Universal Leg Splint *(5 min., sd., b&w, 16 mm., Order No. MN 8184-d, $9.25, USN)* Demonstrates step-by-step how to apply a universal leg splint to fractures of the lower extremity.

First Aid for Heat Stroke and Heat Exhaustion *(19 min., sd., color, 16 mm., Order No. MN 8186, $65.00, USN)* Demonstrates how to recognize and treat heat stroke and heat exhaustion cases. Designed primarily for use with Navy hospital corpsmen.

First Aid Handling and Transporting of the Injured: Introduction *(13 min., sd., b&w, 16 mm., Order No., MN 8187-a, $23.75, USN)* Reviews the seven principles of proper handling and transporting casualties. Do not move before examining and treating. Keep injured lying down. Handle carefully. Attach record. Use three men to roll or lift. Keep warm. Use stretcher for transport.

First Aid Handling and Transporting of the Injured: Lifelines, Improvised Stretchers, and Carriers *(13 min., sd., b&w, 16 mm., Order No. MN 8187-c, $23.75, USN)* Covers special techniques of handling and transporting the injured in emergency situations where standard stretchers are not available. Includes use of lifelines, various improvised stretchers, the firemen's carry, pack-strap carry, tied-hands crawl, collar or clothes drag, three-man carry, and the two-man carry.

First Aid Handling and Transporting of the Injured: Mastering Basic Techniques *(27 min., sd., b&w, 16 mm., Order No. MN 8187-b, $47.00, USN)* Reviews techniques for straightening a seriously injured casualty; rolling, lifting, transporting in the Army litter, and the use of the Stokes and Neil Robertson stretchers.

Techniques of Exhaled-Air Artificial Respiration *(12 min., sd., b&w, 16 mm., Order No. FTA 458, $22.25, USAF)* Shows how to administer mouth-to-mouth artifical respiration.

HEMIC AND LYMPHATIC SYSTEMS

Blood Collection for Pediatric Tests *(5 min., sd., color, 16 mm., Order No. M-1299, $18.00, NMAC)* Demonstrates the procedure for taking blood specimens from very young infants for phenylalanine testing and other pediatric serum tests. Faulty, as well as proper techniques in using the Rasmussen disposable blood collector, are shown with errors being demonstrated and pointed out. The recommended method for shipping the serum to the laboratory is also shown.

Hematological Technique for Charging the Hemocytometer *(6 min., sd., color, 16 mm., Order No. MN 9375-b, $21.25, USN)* Demonstrates how to take a blood count of red and white corpuscles.

Hematological Technique: Collecting Blood Samples *(7 min., sd., color, 16 mm., Order No. MN 9375-a, $24.50, USN)* Demonstrates how to collect blood samples from the finger.

Serological Technique: Venipuncture *(7 min., sd., color, 16 mm., Order No. MN 9375-c, $24.50, USN)* Demonstrates how to take a blood sample from the arm.

HUMAN RELATIONS

A Little Extra Work *(9 min., sd., color, 16 mm., Order No. M-995, $31.00, NMAC)* Shows the emotional conflicts involved in the working relationship between local and state health departments.

A Matter of Perspective *(8 min., sd., color, 16 mm., Order No. M-994, $27.75, NMAC)* A problematical situation intended as a stimulus to guide group discussion; a young mother's difficulty in having her children vaccinated at a County Clinic; presented and described.

Sarah Wilson *(8 min., sd., color, 16 mm., Order No. M-993, $27.75, NMAC)* An "open end" situation aimed at promoting guided group discussion; how, at a meeting of health office personnel, a proposal by one member encounters opposition from the majority of the group; presented and described.

MEDICAL AND PARAMEDICAL PROFESSION

The Air Force's Flying Hospitals *(14 min., sd., color, 16 mm., 1966, Order No. SFP 1350, $48.50, USAF)* Pictures duties of the senior flight nurse and her crew before take-off from an overseas hospital to the United States. Includes visiting patients; reviewing patients' medical records; listing special equipment, supplies, and diets; and converting interior of aircraft to hospital ward. Also shows duties of MAC medical airlift personnel on domestic flights from and to hospitals within the states. Cleared for TV.

Basic Autopsy Procedure *(51 min., sd., color, 16 mm., 1961, Order No. PMF 5339, $172.50, USA)* Describes the purpose, technique and advantages of the basic autopsy procedure. Explains the preliminary steps taken by the pathologist and the legal requirements for performing an autopsy, demonstrates each step in the basic autopsy procedure, and shows how the pathologist's autopsy notes and finds are presented for review by the medical board.

The Gift You Bring *(31 min., sd., color, 16 mm., $104.25, VA)* Portrays, through the stories of a businessman, a housewife, a secretary, a barber and a high school student, the significant part played by volunteer activities in Veterans Administration hospitals.

Journey into Medicine *(39 min., sd., b&w, 16 mm., Order No. MIS-298 $66.75, NMAC)* Dramatized story of a doctor's "journey into medicine"—his studies in medical school, graduation, internship, further study in pediatrics, and his decision to specialize in public health.

Medical Residency Training at Wilford Hall USAF Hospital *(21 min., sd., color, 16 mm., 1965, Order No. SFP 1457, $71.50, USAF)* Cites hospital for quality of its professional care, contributions to clinical medicine, and support of orbital space flights. Describes eleven residence programs, and fellowships and other educational opportunities for physicians and surgeons. Cleared for TV.

Rx Attitude *(18 min., sd., b&w, 16 mm., $32.00, VA)* Stresses the importance of attitudes exhibited by hospital personnel toward mental patients, and portrays the effects of such attitudes upon patients in a Veterans Administration mental hospital. Primarily for the information and training of hospital personnel.

MEDICAL FACILITIES

The Communicable Disease Center *(17 min., sd., color, 16 mm., Order No. M-477, $58.50, NMAC)* Discusses the role of the U.S. Public Health Service's Communicable Disease Center in Atlanta, Georgia, in the nation's effort to control communicable diseases. The film takes the viewer on a photographic tour of the Center's facilities in Atlanta, and also shows some of the Center's field work around the nation.

Medlars *(24 min., sd., b&w, 16 mm., Order No. M-780, $42.25, NMAC)* An orientation film on the new medical literature and retrieval system located at the National Library of Medicine.

National Library of Medicine *(26 min., sd., color, 16 mm., Order No. M-523, $88.00, NMAC)* Describes the history, resources, and services of the National Library of Medicine.

The National Naval Medical Center *(28 min., sd., color, 16 mm., Order No. MN 10322, $94.50, USN)* A brief historical segment of President Franklin D. Roosevelt's part in planning and dedicating the center and a general view of the varied work that takes place.

MEDICAL RESEARCH

Aero Medical Research *(25 min., sd., color, 16 mm., Order No. SFP 390, $84.75, USAF)* Describes the intensive research program at ARDC's Aero Medical Laboratory, Wright Air Development Center; and illustrates the role of aero medical specialists through actual tests and research necessary for an F102 pilot to withstand the rigors of high speeds, high altitudes, and intricate maneuvers.

Demonstrations in Perception *(25 min., sd., b&w, 16 mm., Order No. MN 7361, $43.75, USN)* Presents some of the demonstrations in use at Princeton University for research in perception.

MEDICAL SUPPLY

Medical Supply System, U.S. Army—Part I—Organization and Administration *(24 min., sd., b&w, 16 mm., 1967, Order No. TF 8-3801, $42.25, USA)* Describes the mission and operational relationship of the major organizations within the Medical Supply System.

Medical Supply System, U.S. Army—Part II—Operations at CONUS and Overseas Installations *(22 min., sd., b&w, 16 mm., 1967, Order No. TF 8-3802, $38.50, USA)* Demonstrates medical supply operations at a typical depot in CONUS (Ft. Knox).

MICROBIOLOGY AND BACTERIOLOGY

Air Sampling for Microbiological Particulates *(11 min., sd., color, 16 mm., Order No. M-926, $37.25, NMAC)* The purpose of the film is to show the proper techniques and procedures for sampling airborne bacteria in hospitals, using the Reyniers and TDL Samplers. Content: 1—Reasons for airborne sampling, 2—Operation of the Reyniers sampler, 3—Operation of TDL Sampler, 4—Counting bacterial colonies.

Biology and Control of Schistosomiasis in Puerto Rico *(19 min., sd., color, 16 mm., Order No. M-650, $65.00, NMAC)* Shows the problem of schistosomiasis in the world today. Points out detection of the disease and survey methods in Puerto Rico; photomicrography and animation of life cycle of the parasite. Schistosoma mansoni; clinical symptoms of the disease; ecology of the fresh-water snail host and control methods.

Cholera Epidemic in South Vietnam *(10 min., sd., b&w, 16 mm., Order No. M-837, $17.50, NMAC)* This is the story of a 1964 outbreak of cholera in South Vietnam and the steps taken by a Navy medical team to bring it under control. Filmed in Saigon, this fast-paced documentary features resourceful methods of treatment pioneered by renowned cholera expert, Captain Robert Philips.

Cholera Today—Bedside Evaluation and Treatment *(19 min., sd., color, 16 mm., Order No. M-1012, $65.00, NMAC)* A training aid for physicians and paramedical personnel in the evaluation and treatment of cholera patients; provides current information on the methods and equipment used. Illustrates the patient's symptoms and his facial and physiological reactions to treatment. Shows how to prepare IV fluids in the field where they are not commercially available.

Collection and Processing of Specimens for Respiratory Virus Isolation *(3 1/4 min., sd., color, 16 mm., Order No. M-812, $13.50, NMAC)* This film illustrates the recommended procedures for collection and processing of throat swab specimens for viral studies. Techniques for virus isolation are not included. It is recommended that this film be used in conjunction with others in the series pertaining to the isolation and identification of respiratory disease agents.

Dance Little Children *(Spanish Only) (25 min., sd., color, 16 mm., Order No. M-684, $84.75, NMAC)* The story of teenagers and the pressures they are under today—lewd publications, sex magazines, dances. The V.D. investigator on a case shows what must be done and how to uncover early cases of syphilis and stresses that all cases must be located, contacted, and tested in order to break the chain of syphilis.

Detection of C. Botulinum in Food, Part II: Mouse Toxin—Neutralization Test *(12 3/4 min., sd., color, 16 mm., Order No. M-862, $45.25, NMAC)* Food extract containing C. botulinum is mixed with antitoxins of known types. One tube is placed in boiling water. Two mice are inoculated with each mixture. Surviving mice indicate heat lability and which antitoxin neutralizes the toxin. This demonstrates which type was in the food.

Detection of C. Botulinum in Food—Part I: Preparation of Food Samples and Direct Cultures *(11 min., sd., color, 16 mm., Order No. M-846, $37.25, NMAC)* Food extract is prepared using gelatin diluent. Meat-dextrose-starch medium is inoculated with the extract. The culture tubes are sealed and one is placed in boiling water, one in 80 degree water and one in 70 degree water, and all are incubated. This heat shock treatment selects spores from vegetative cells.

Detection of C. Botulinum in Food—Part III: Isolation from Mixed Culture *(7 min., sd., color, 16 mm., Order No. M915, $24.50, NMAC)* Food samples are incubated, anaerobically, on meat-dextrose-starch medium. After incubation, smears are streaked on blood agar and egg yolk agar plates. These are incubated anerobically. Lipasepositive colonies from egg-yolk plates and hemolytic colonies from blood agar are sub-cultured in meat-dextrose medium.

Determination of Types of C. Diphteriae *(11 min., sd., b&w, 16 mm., Order No. 4-088.2, $19.25, NMAC)* Shows procedures for determining cultural types of Coryhebacterium diphteriae, hemolysin and fermentation tests, and observation of colony forms. Recommended for professional use.

Epidemiology of Salmonellosis in Man and Animals *(15 min., sd., color, 16 mm., Order No. M-558, $51.75, NMAC)* Shows the complex transmission patterns of salmonellosis from contaminated feeds to food animals to humans; significance of human "carriers" among food handlers. Suggests means of control.

Epidemiology of Staphylococcal Infections *(13 min., sd., color, 16 mm., Order No. M-355, $45.25, NMAC)* Traces the epidemiological pattern of staphylococcal infection within the hospital; shows that hospital personnel frequently are carriers of antibiotic-resistant epidemic strains of staphylococcus, and that these personnel carriers may infect patients through direct contamination, or through contamination of the environment.

Erythrocytic Stages of Plasmodium Vivax *(4 min., sd., b&w, 16 mm., Order No. M-138a, $7.75, NMAC)* By means of the phase contrast microscope, shows the appearance and behavior of living malaria parasite within infected red blood cells, specifically, ring stages, young and mature trophozoites, and schizonts of Plasmodium vivax. Recommended for professional use.

A Fifty-Fifty Chance *(28 min., sd., color, 16 mm., Order No. M-1415, $94.50, NMAC)* A dramatic presentation showing a wife who has contracted tetanus and the resultant emotions and problems of her family. Motivates people to have themselves immunized.

Filariasis in British Guiana *(16 min., sd., b&w, 16 mm., Order No. M-673, $28.50, NMAC)* Explains the filariasis problem in British Guiana and urges people to co-operate with the control program.

Identification of Early Syphilis *(English & Spanish) (24 min., sd., color, 16 mm., Order No. M-507, $81.50, NMAC)* A simulated medical school lecture on the subject of identification of early syphilis. Stresses the importance of suspecting syphilis in office patients, discussing the necessity of being able to recognize the signs of early syphilis, and the need for prompt and effective epidemiology. Includes rear-projected clinical slides.

The Infectious Diarrheas *(15 min., sd., color, 16 mm., Order No. M-313, $51.75, NMAC)* Discusses the overall problems involved in the control of some enteric diseases. Particularly useful for general audience.

The Innocent Party *(Spanish only) (18 min., sd., color, 16 mm., Order No. M-685, $61.75, NMAC)* Presents the case history of a teen-ager who contracts venereal disease from a casual contact and transmits it to his girl friend. Shows the emotional effects of the disease, and stresses the necessity of prompt medical attention.

Introduction to the Fluorescent Treponemal Antibody Test *(9 min., sd., color, 16 mm., Order No. M-338, $31.00, NMAC)* Describes the preparation of treponemal antibody antigen, the technique of staining with fluorescent material, reactions obtained by means of ultraviolet light microscope assembly, and the method used in the preparation of tagged globulin and its chemical purification. Professional use only.

In Vitro Pathogenicity Test for C. Diphtheriae *(6 1/2 min., color, 16 mm., Order No. M-776, $22.75, NMAC)* Shows preparation of materials and interpretation of results of test to determine toxigenic strains of C. diphtheriae.

In Vivo Toxigenicity Test for C. Diptheriae *(11 3/4 min., sd., color, 16 mm., Order No. M-972, $42.00, NMAC)* Demonstrates techniques for administering the in vivo toxigenicity test for C. Diphtheriae, either to confirm results in the in vitro test, or as a matter of preference.

Isolation & Identification of Beta Hemolytic Streptococci *(15 min., sd., color, 16 mm., Order No. M-992, $51.75, NMAC)* Accepted methods for collecting and transporting throat swab specimens and isolation of beta hemolytic streptococci are introduced. Laboratory procedures for culturing beta hemolytic streptococci include the preparation of pour-streak plates and examination of surface and subsurface growth for beta hemolytic streptococci. A series of photomicrographs of colonies are included which illustrate how various kinds of hemolysis can be differentiated.

Isolation and Identification of Mycoplasma Pneumonia (Eaton Agent) *(4 1/2 min., sd., color, 16 mm., Order No. M-874, $16.25, NMAC)* Essential purpose of film is to train technicians in the routines involved in the isolation and identification of the Mycoplasma by use of proper media and microscopic viewing techniques. Confirming tests are shown making use of specific anti-sera saturated paper disks.

Isolation of Salmonella and Shigella Cultures *(9 min., sd., color, 16 mm., Order No. M-985, $31.00, NMAC)* Demonstrates technique of growing enteric bacteria on selective media, identification of suspicious colonies and further screening by growing on triple-sugar-iron-agar.

Keep Clean—Stay Well *(9 min., sd., b&w, 16 mm., Order No. M-674, $15.75, NMAC)* For use with seasonal crop workers and their families. Demonstrates how workers can carry out personal cleanliness in camps; shows relationship between keeping clean and keeping well: Intended to promote discussion of health in camps, and responsibility of each group—workers, growers, and others.

Laboratory Methods for Airborne Infection. Part 1: The Cloud Chamber *(28 min., sd., color, 16 mm., Order No. M-261, $94.50, NMAC)* Demonstrates laboratory apparatus and techniques for studying aerosol-borne pathogens developed by the U.S. Army Chemical Corps Research and Development Command. Demonstrates the cloud chamber which permits the exposure of laboratory animals to aerosois of various particle-sizes.

Laboratory Methods for Airborne Infection. Part 2: The Henderson Apparatus *(34 min., sd., color, 16 mm., Order No. M-304, $114.25, NMAC)* The Henderson apparatus is discussed in full detail: two types of Henderson tubes housed in ventilated cabinets. One is re-circulating and operates completely outside of laboratory facilities. The second is non-circulating and operates from laboratory air system and vacuum lines.

Leptospirosis *(16 min., sd., color, 16 mm., Order No. M-329, $55.00, NMAC)* Explains to professional personnel the various phases of leptospirosis, discusses the possibility of human infection, and points out to laboratory personnel the various aspects of the disease.

Management of the Leprosy Patient *(19 min., sd., color, 16 mm., Order No. M-392, $65.00, NMAC)* Discusses the work of the Public

Health Service hospital at Carville, La., in treating and rehabilitating leprosy patients. Shows the effectiveness of the sulfone drugs which are the principal agents of treatment today.

Methods for the Isolation of Salmonella from Human Food and Animal Feeds *(12 min., sd., color, 16 mm., Order No. M-553, $42.00, NMAC)* Demonstrates techniques for the isolation and screening of salmonella from foodstuffs.
Credits: Technical adviser, Mildred M. Galton, Sc.M.

Microorganisms of Gas Gangrene *(9 min., silent, color, 16 mm., Order No. M-154, $31.00, NMAC)* Shows species of Clostridium causing gas gangrene, the morphological characteristics of these bacteria, and studies of the bacteria in various cultures.

Microscopic Study and Isolation of C. Diphtheriae *(13 min., sd., b&w, 16 mm., Order No. 4-088, $23.75, NMAC)* Presents procedures for isolating pure cultures of Corynebacterium diptheriae from throat and nasal swabs of a patient with suspected diphtheria. Includes photomicrographs of organisms.

Micro-Techniques in Serology *(7 1/2 min., sd., color, 16 mm., Order No. M-859, $26.00, NMAC)* Demonstrates the use of micro-equipment for performing serologic titration tests. The method is economical of both reagents and time, since it enables one technologist to test 144 sera against three antigens in an eight hour day.

Niacin-Nitrate Reduction Test *(5 1/2 min., color, 16 mm., Order No. M-772, $19.50, NMAC)* Demonstrates a rapid test for identifying M. tuberculosis. This procedures is based on the ability of M. tuberculosis both to produce niacin and to reduce nitrates to nitrites, an ability possessed by no other pathogenic mycobacteria.

An Outbreak of Salmonella Infection *(14 min., sd., color, 16 mm., Order No. 148a, $48.50, NMAC)* Presents a simulated typical outbreak of food-borne illness caused by organisms of the Salmonella group. Discusses source and means of contamination, factors contributing to the survival and transfer of the organism, important conditions of environment and general food handling practices, and effects of the outbreak.

An Outbreak of Staphylococcus Intoxication *(12 min., sd., color, 16 mm., Order No. M 148b, $43.75, NMAC)* Presents a case study of a typical outbreak of food-borne illness caused by Staphylococcus organisms, including symptoms of the victims, tracing the source of the organisms as Staphylococcus aureus in pastry filling, and the reasons for the incidence of the organisms in the food.

Plague Control *(21 min., sd., color, 16 mm., Order No. MN 4049, $71.50, USN)* Explains the chief clinical types of plague, the type of environment in which plague tends to flourish, the role of the rat and rat flea, and rat control measures.

Plague in Sylvatic Areas *(26 min., sd., color, 16 mm., Order No. M440, $88.00, NMAC)* Shows the world history of plague and its introduction into the U.S., particularly in the sylvatic areas of the West. Describes the importance of the control of transmission agents, including the rodent-borne fleas, and discusses methods of rapid diagnosis and treatment.

A Practical View of Syphilis *(30 min., sd., color, 16 mm., Order No. M 584, $101.00, NMAC)* Gives a practical overview of the most significant aspects of modern-day syphilis diagnosis and management. It is intended for use in medical schools and is designed to simulate a classroom lecture as closely as possible. Restricted to professional distribution.

Preparation of a Culture Medium *(14 min., sd., b&w, 16 mm., Order No. 4-089.1, $25.50, NMAC)* Demonstrates the necessity for bacteriologic diagnosis of tuberculosis; advantages of the modified Lowenstein medium; ingredients, preparation, tubing, inspissating, testing, and storing of the medium. User should supplement film with current data.

Preparation of Sputum Specimens *(16 min., sd., b&w, 16 mm., Order No. 4-089.2, $28.50, NMAC)* Shows the technique of sputum preparation used in laboratory diagnosis of tuberculosis to simplify diagnostic methods and to supplement mass X-ray programs. User should supplement film with current data.

Preservation of Bacteria by Desiccation in Vacuo *(11 min., sd., b&w, 16 mm., Order No. 4-102, $19.25, NMAC)* Demonstrates the technique for desiccation in vacuo as a method of preservation for most bacteria. Recommended for professional use. User should supplement film with current data.

Prevention and Control of Staphylococcal Infections *(14 min., sd., b&w, 16 mm., Order No. M-356, $25.50, NMAC)* Presents an analysis of staphylococcal infections in hospitals, and emphasizes techniques and improved housekeeping procedures to follow in the control of these infections. User should supplement film with current data.

Recognition of Leprosy *(13 min., sd., color, 16 mm., Order No. M-374, $45.25, NMAC)* Illustrates the clinical manifestations of leprosy, using patients from the Public Health Service Hospital at Carville, La; shows the technique of taking and staining skin scrapings to demonstrate the etiologic agent, Mycobacterium leprae, and the technique of taking skin biopsies to determine pathology of peripheral nerves.

Sputum Digestion and Decontamination with N-acetyl-L-cysteine NaOH *(5 1/2 min., sd., color, 16 mm., Order No. M-771, $19.50, NMAC)* Demonstrates a method for digesting and decontamination of sputum suspected of containing tubercle bacilli. The entire procedure is carried on under a safety hood, greatly reducing hazards to the technologist.

Surface Sampling for Microorganisms (Rodac Method) *(8 min., sd., color, 16 mm., Order No. M 924, $27.75, NMAC)* The purpose of the film is to teach the proper techniques and procedures of surface sampling for bacteria in hospitals using the Rodac Plate. Content: 1—Reasons for surface sampling, 2—Preparation of the agar sampling plates, 3—Description of the random and geometric grid sampling methods, 4—Counting and reporting of colonies.

Surface Sampling for Microorganisms (Swab Method) *(5 min., sd., color, 16 mm., Order No. M 925, $18.00, NMAC)* The purpose of the film is to show the proper techniques and procedures of surface sampling for bacteria in hospitals, using the swab method and template. Content: 1—Reasons for surface sampling, 2—Techniques of sampling on flat and irregular surfaces, 3—Processing of swabs and rinse liquids, 4—Counting of microbial colonies, and interpretation of results.

Toxigenicity Test of C. Diphtheriae *(13 min., sd., color, 16 mm., Order No. M 569, $45.25, NMAC)* Explains procedures of the in-vitro test and animal tests for the detection of toxigenic strains of Corynebacterium diphtheriae. Shows preparation of materials and interpretation of results of the tests.

TB Laboratory Procedure. Drug Susceptibility Testing, Part II *(7 min., sd., color, 16 mm., Order No. M-1050, $24.50, NMAC)* One of two films. Shows indirect method (by subculturing) for determining the susceptibility of tubercle bacilli to various anti-tuberculosis drugs; including sputum dilution, subculturing media inoculation, incubation, growth evaluation, and recording.

TB Laboratory Procedure, Fluorescent Staining *(color, 16 mm., Order No. M-1023, $11.50, NMAC)* Shows quick method to detect the presence or absence of acid-fast organisms in sputum, including heating, staining, washing, drying of sputum smears on slide, and examination of slide with fluorescent microscope for acid-fast organisms.

TB Laboratory Procedure, Ziehl-Neelsen Staining *(color, 16 mm., Order No. M-1022, $13.50, NMAC)* Shows the most common method for demonstrating the presence of acid-fast organisms, including heat-fixing, staining, washing, drying, examining, and reporting the presence or absence of acid-fast bacilli.
NOTE: M-1022 and M-1023 are on one reel.
Total Running Time: 6 1/2 min.

Tuberculin Testing *(10 min., sd., color, 16 mm., 1959, Order No. MN 8951, $34.00, USN)* Demonstrates the procedures for administering and interpreting the PPD tuberculin test.

Tuberculin Testing, Part I. Tuberculins *(6 1/2 min., sd., color, 16 mm., Order No. M-1016, $22.75, NMAC)* One of a series. Shows briefly the procedures involved in the preparation of purified protein derivatives and in particular the preparation of PPD-S used in tuberculin testing.

Tuberculin Testing, Part II. Administration Techniques *(5 1/4 min., sd., color, 16 mm., Order No. M-1017, $19.50, NMAC)* One of a series. Shows the equipment needed and the techniques required to give the Mantoux tuberculin test.

VDRL Tests for Syphilis *(22 min., sd., b&w, 16 mm., Order No. M-342, $38.50, NMAC)* Describes the preparation of the basic antigen emulsion; shows the procedures for the slide flocculation tests for serum, for the tube flocculation tests for serum, and for the spinal fluid test; and gives a recapitulation of key points of VDRL tests for syphilis. Professional distribution only.

Sputum Collection and Transportation *(6 1/4 min., sd., color, 16 mm., Order No. M-1019, $22.75, NMAC)* Treats subject of proper collection and handling of sputum. Collection methods include produced cough and gastric lavage. Handling introduces newly designed collection tube with built-in safety factor designed to prevent contamination of technical personnel.

TB Laboratory Procedure. Drug Susceptibility Testing, Part I (Direct Method) *(6 1/4 min., sd., color, 16 mm., Order No. M-1049, $22.75, NMAC)* One of two films. Shows direct method for determining the susceptibility of tubercle bacilli to various antituberculosis drugs; including sputum dilution and media inoculation, incubation, growth evaluation and recording.

Tuberculosis: Laboratory Aids to Diagnosis and Treatment *(13 min., sd., color, 16 mm., Order No. M-719, $45.25, NMAC)* Briefly illustrates the most recent development in laboratory procedures that are available to aid to physicians in diagnosing and treating tuberculosis patients. Emphasizes up-to-date rapid culture techniques, direct drug susceptibility testing, and the differentiation of unclassified mycobacteria.

MICROBIOLOGY, GENERAL

The Demonstration Story *(14 min., sd., color, 16 mm., Order No. M651, $48.50, NMAC)* Describes the overall principles involved in providing improved communicable disease control through community demonstration. This film made in demonstration communities shows community analysis and corrective programs.

Erthyrocyte Transketolase Activity *(19 min., sd., color, 16 mm., $65.00, VA)* This film demonstrates the usefulness of the assay erthrocyte transketolase activity and the "TPP Effect" for the diagnosis of thiamin deficiency in man.

Histopathological Technique: Processing a Gross Specimen *(10 min., sd., color, 16 mm., Order No. MN 9375-d, $34.00, USN)* Demonstrates the methods involved in preparing and freezing a gross specimen.

Laboratory Technique for Darkfield Microscopy *(16 min., sd., b&w, 16 mm., Order No. FN 7468, $28.50, USN)* Explains the theory of darkfield microscopy, the preparation of slides, and the use of a darkfield microscope. Designed for use by laboratory technicians.

A Matter of Protection *(28 min., sd., color, 16 mm., Order No. MIS-744, $94.50, NMAC)* Film shows how to answer pertinent questions about epidemics, and how the Nation's health is protected. It shows how the Service seeks causes and cures of disease, and how the Public Health Service, working with many professional allies, helps advance the health of 180 million Americans.

Methods for Obtaining Anaerobiasis *(11 1/2 min., sd., color, 16 min., Order No. M 850, $40.50, NMAC)* Demonstrates use of the anaerobe jar for culturing organisms that require an oxygen-free environment.

Military Immunization: General Procedures *(25 min., sd., b&w, 16 mm., Order No. MN 8568-a, $43.75, USN)* Depicts the procedures which enable a small team of medical personnel to immunize large groups of men safely and speedily; stresses the proper planning and organization, and the use of an individual sterile syringe and needle for each injection.

Plastic Isolators: New Tools for Medical Research *(14 min., sd., color, 16 mm., Order No. M-599, $48.50, NMAC)* Demonstrates how inexpensive plastic isolators will protect laboratory animals from contamination during research studies. These isolators are also being used to protect personnel from virulent organisms, noxious fumes and radioactive dusts.

Credits: Robert Holdenried, Ph.D. and Phillip C. Trexler.

MICROBIOLOGY AND MYCOLOGY

Coccidioidomycosis, Its Epidemiologic and Clinical Aspects *(19 min., sd., color, 16 mm., Order No. M-175, $65.00, NMAC)* Explains the clinical, histological, and epidemiological aspects of the fungus disease, coccidioidomycosis, including distribution and ecology of the etiologic agent Coccidioides immitis and clinical aspects of the benign and disseminated forms; includes identification of the fungus.

An Epidemic of Histoplasmosis *(17 min., sd., color, 16 mm., Order No. M-534, $58.50, NMAC)* Explains how an epidemic of acute respiratory disease in a Boy Scout troop is investigated by chest survey, histoplasmin skin tests, and complement fixation to confirm histoplasmosis. Discusses the soil cultures of the site of exposure, a starling roost, explaining that they implicate the guano-fertilized park area.

Histoplasmosis—Mason City, Iowa *(15 1/2 min., sd., color, 16 mm., Order No. M-1228, $53.50, NMAC)* Documents two histoplasmosis outbreaks in Mason City, Iowa. Illustrates, with live footage and animation, soil decontamination procedures for health officials of communities having starling roosts or other sites contaminated with histoplasma capsulation.

Isolation of Blastomyces Dermatitidis *(3 1/2 min., sd., color, 16 mm., Order No. M-991, $13.50, NMAC)* Demonstration of the two morphologica types, typical of B. dermatitidis, when grown at room temperature and at body temperature (37° centigrade).

Isolation of C. Immitis *(6 1/2 min., sd., color, 16 mm., Order No. M-990, $22.75, NMAC)* Demonstrates method for isolating and identifying the pathogenic fungus, C. Immitis from clinical material.

Mississippi Valley Disease: Histoplasmosis *(30 min., sd., b&w, 16 mm., Order No. MIS-971, $52.00, NMAC)* Doctors M. L. Furcolow and Patrick Lehan summarize current knowledge of the fungus infection histoplasmosis, covering the epidemiology and clinical course of this widespread disease. For the lay public.

Motility of Entamoeba Histolytica *(4 min., sd., color, 16 mm., Order No. M-1421, $14.75, NMAC)* Photomicrography of scrapings from rectal lesion of a case of amebiasis showing movement of parasites.

Mycological Slide Culture Technique *(6 1/2 min., sd., color, 16 mm., Order No. M-767, $22.75, NMAC)* A method of growing fungi on microscope cover slips to preserve mycelia and spores intact.

MICROBIOLOGY AND PARASITOLOGY

Ancylostoma Caninum in the Intestine of the Dog *(5 min., sd., b&w, 16 mm., Order No. M-115, $9.25, NMAC)* Depicts the blood-sucking activities and copulation of adult hookworms in the intestines of the dog. A study film.

African Trypanosomiasis *(16 min., sd., color, 16 mm., 1951, Order No. MN 6839, $55.00, USN)* Explains the etiology, epidemiology, symptomatology, diagnosis, treatment, prognosis, prevention, and control of African trypanosomiasis (sleeping sickness). Primarily for medical personnel.

Asiatic Schistosomiasis *(22 min., sd., color, 16 mm., Order No. MN 5028, $74.75, USN)* Explains the cause and effects of schistosomiasis, and demonstrates preventive and control measures.

Australorbis Glabratus, Vector of Schistosoma Mansoni *(3 min., silent, b&w, 16 mm., Order No. 4-066, $6.25, NMAC)* Illustrates through aquarium scenes the life cycle of Australorbis glabratus, the Planorbid snail which is the intermediate host and principal transmitting species in tropical America of Schistosoma Mansoni.

Biology and Control of Schistosomiasis in Puerto Rico *(Spanish) (19 min., sd., color, 16 mm., Order No. M 1035, $65.00, NMAC)* Shows the problem of schistosomiasis in the world today. Points out detection of the disease and survey methods in Puerto Rico; photomicrography and animation of life cycle of the parasite, Schistosoma mansoni; clinical symptoms of the disease; ecology of the fresh-water snail host and control methods.

Biology and Control of Schistosomiasis in Puerto Rico *(French) (19 min., sd., color, 16 mm., Order No. M 1036, $65.00 NMAC)* Shows the problem of schistosomiasis in the world today. Points out detection of the disease and survey methods in Puerto Rico; photomicrography and animation of life cycle of the parasite, Schistosoma mansoni; clinical symptoms of the disease; ecology of the fresh-water snail host and control methods.

Eaton Agent Pneumonia *(17 min., sd., color, 16 mm., Order No. M 479, $58.50, NMAC)* Traces the first study made in isolating and defining the cause of Eaton agent pneumonia, and the later confirmation of the agent by means of the fluorescent antibody technique. Explains how the Eaton agent was induced, the clinical manifestations, and the treatment with dimethylchlortetracycline.

Eggs and Miracidia of Schistosoma Mansoni *(3 min., silent, b&w, 16 mm., Order No. 4-067, $6.25, NMAC)* Photomicrographic scenes of Schistosoma mansoni eggs hatching in fresh water, and the miracidia searching for a suitable snail as the intermediate host. Recommended for professional use.

Epidemiology of Murine Typhus *(18 min., sd., b&w, 16 mm., Order No. 4-049.1, $32.00, NMAC)* Epidemiological study of murine typhus and its relationship to its prevention and control; pattern of the disease—rats, rat fleas, man; and the role of public health officers and the U.S. Public Health Service in controlling the disease.

Excystation and Motility of Endamoeba Histolytica *(3 min., silent, b&w, 16 mm., Order No. 4-070, $6.25, NMAC)* Shows by bright-field and dark-field illumination the process of excystation of the trophozoite of Endamoeba histolytica. Recommended for professional use.

Flocculation Test for Parasitic Disease *(7 min., sd., color, 16 mm., Order No. M857, $24.50, NMAC)* Demonstrates a rapid technique for detecting certain parasitic diseases; employs flocculating bentonite particles.

Formalin-Ether Sedimentation Technique *(8 min., sd., color, 16 mm., Order No. M761, $27.75, NMAC)* Film shows the step-by-step procedure for performing the Formalin-ether sedimentation technique on fecal specimens for diagnosis of intestinal parasites. Designed for training of technical personnel.

Hemagglutination Test for Echinococcosis *(6 min., sd., color, 16 mm., Order No. M858, $21.25, NMAC)* Demonstrates a modified tube hemagglutination test for diagnosis of echinococcosis.

Infective Larvae of Ancyclostoma Caninum *(5 min., sd., b&w, 16 mm., Order No. M-114, $9.25, NMAC)* Portrays the form of infective larvae of the dog hookworm and their behavior on soil particles. A study film. Recommended for professional use.

Infective Larvae of Wuchereria Bancrofti *(4 min., silent, color, 16 mm., Order No. 4-059, $14.75, NMAC)* Cinemicrography of activity of infective larvae of Wuchereria bancrofti from mosquitoes infected with microfilariae (diurna) from Society Islands infection. Recommended for professional use.

Life Cycle of Diphyllobothrium Latum *(17 min., sd., b&w, 16 mm., Order No. 4-043, $30.50, NMAC)* Explains and traces by means of animation and photomicrography the life cycle of the broad tapeworm of man.

Life Cycle of Endamoeba Histolytica in Dysenteric and Non-Dysenteric Amoebiasis *(18 min., sd., color, 16 mm., Order No. MN2617, $61.75, USN)* Shows the parasites as cysts in an ulcerated colon; and demonstrates by animation how the amoeba divides into eight amoebulae which move about, and how the amoebae enter the blood. For medical personnel.

Manson's Blood Fluke *(16 min., sd., b&w, 16 mm., Order No. 4-034, $28.50, NMAC)* Demonstrates stages in the life cycle of Schistosoma mansoni in secondary and primary hosts; explains the biologic relationships between the blood fluke and its hosts—man and snail; and discusses the pathology of Manson's schistosomiasis in man. Primarily animation photomicrography.

Marsupialization of a Hydatid Cyst of Echinococcus Granulosis in the Liver *(14 min., sd., color, 16 mm., Order No. M627, $48.50, NMAC)* Demonstrates the serologic and radiologic findings confirming the diagnosis of hydatid cyst in a 21-year-old white male. Shows the surgical treatment of the patient leading to complete recovery.

Microfilariae of Wuchereria Bancrofti *(4 min., silent, color, 16 mm., Order No. 4-058, $14.75, NMAC)* Cinemicrography of activity of diurnally periodic microfilariae of Wuchereria bancrofti from the blood of a soldier infected in the Society Islands. Recommended for professional use.

Miracidia of Schistosoma Japonicum *(4 min., silent, color, 16 mm., Order No. 4-060, $14.75, NMAC)* Cinemicrography of miracidia of Schistosoma Japonicum inside egg shell and free in fecal concentrate, showing absence of egg shell spine and activity of contained miracidia. Recommended for professional use.

Movements of Endamoeba Histolytica *(2 min., silent, color, 16 mm., Order No. 4-061, $9.00, NMAC)* Cinemicrography of typical motility and ingested red cells of trophozoite of Endamoeba histolytica from a clinical case of amoebic dysentery.

The Pathology of Schistosomiasis *(2 min., silent, b&w, 16 mm., Order No. 4-068, $5.50, NMAC)* Views of pathological specimen material from chronic schistosomiasis. Recommended for professional use.

Preparation and Staining of Fecal Smears for Parasitological Examination *(7 1/2 min., color, 16 mm., Order No. M760, $26.00, NMAC)* Demonstrates the trichrome staining technique for the detection of intestinal parasites.

The Problem of Hookworm Infection *(8 min., sd., color, 16 mm., Order No. M157, $27.75, NMAC)* Emphasizes the dangers of hookworm disease, and pictures the life cycle of the hookworm, conditions in a rural home conducive to hookworm infection, and the effects of hookworm disease in a young girl.

Schistosomes in the Primary Host *(7 min., silent, b&w, 16 mm., Order No. 4-063, $12.50, NMAC)* Shows through photomicrography the development of schistosomes, male and female, in various stages of growth in primary hosts—rabbit and mouse. Recommended for professional use.

The Setting of Endemic Schistosomiasis in Puerto Rico *(4 min., silent, b&w, 16 mm., Order No. 4-065, $7.75, NMAC)* Illustrates three characteristic infection patterns of endemic schistosomiasis in Puerto Rico: pollution of a river, a brook, and sugar cane irrigation ditches by inadequate sewage disposal systems. Recommended for professional use.

Sporocysts and Cercariae of Schistosoma Mansoni *(6 min., silent, b&w, 16 mm., Order No. 4-064, $11.00, NMAC)* A photomicrographic study of cercarial movements and characteristics. Recommended for professional use.

MICROBIOLOGY AND VIROLOGY

Arthropod-Borne Encephalitis—Its Epidemiology and Control *(18 min., sd., color, 16 mm., Order No. M-542, $61.75, NMAC)* Shows clinical signs of encephalitis in humans and horses; epidemiology of the encephalitides, including collection of mosquitoes and birds; and laboratory techniques for studying encephalitis viruses. Demonstrates techniques of control.

Chick Embryo Techniques *(15 min., sd., b&w, 16 mm., Order No. M-42, $27.00, NMAC)* Demonstrates methods of using chick embryos in virus and rickettsia laboratory procedures, including incubating and candling, drilling and opening shells, inoculating, windowing, incubating, and harvesting chrioallantois, allantoic fluid, amniotic fluid, yolk, and embryo. Recommended for professional use.

Embryonated Egg Techniques—Part II: Harvesting *(7 min., sd., color, 16 mm., Order No. M-916, $24.50, NMAC)* Demonstrates techniques of harvesting fluids from embryonated eggs inoculated with viruses.

Embryonated Egg Techniques—Part I: Inoculation *(5 1/2 min., sd., color, 16 mm., Order No. M847, $19.50, NMAC)* Demonstrates techniques of inoculation from embryonated eggs for virus isolation.

Enemy in Your Home *(13 min., sd., color, 16 mm., Order No. M-911, $45.25, NMAC)* Explains the epidemiology of dengue and yellow fever, the biology and methods of surveying and controlling the yellow fever mosquito (Aedes aegypti). A general film designed to obtain support from health workers and the general public for the Aedes aegypti Eradication Program.

The Epidemiology of Influenza *(13 min., sd., b&w, 16 mm., Order No. 4-100, $23.75, NMAC)* Reviews the historical significance of influenza; discusses its behavior and periodicity; and explains the program of the World Health Organization with regard to the disease.

A Healthier Place to Live *(11 min., sd., b&w, 16 mm., Order No. M728, $19.25, NMAC)* For use with seasonal crop workers and their families. Focuses on housing and other environmental conditions of camps, shows safeguards workers can take against such health hazards as pests, dirt, unsafe water. Intended to stimulate discussion of health in camps, and responsibility of each group—workers, growers, and others.

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A Healthier Place To Live *(English) (11 min., sd., 16 mm., Order No. M-825, b&w—$19.25, color—$37.25, NMAC)* For use with seasonal crop workers and their families. Focuses on housing and other environmental conditions of camps; shows safeguards workers can take against such health hazards as pests, dirt, unsafe water. Intended to stimulate discussion of health in camps, and responsibility of each group—workers, growers, and others.

Influenza Virus Isolation *(6 min., color, 16 mm., Order No. M-778, $21.25, NMAC)* Demonstrates technique of virus isolation from clinical specimens by growing in embryonated eggs.

Keep Clean—Stay Well *(English) (9 min., sd., 16 mm., Order No. M-824, b&w—$15.75, color—$31.00)* For use with seasonal crop workers and their families. Demonstrates how workers can carry out personal cleanliness in camps; shows relationship between keeping clean and keeping well. Intended to promote discussion of health in camps, and responsibility of each group—workers, growers, and others.

Keep Clean—Stay Well *(Spanish) (9min., sd., 16 mm., Order No. M-933, b&w—$15.75, color—$31.00, NMAC)* For use with seasonal crop workers and their families. Demonstrates how workers can carry out personal cleanliness in camps; shows relationship between keeping clean and keeping well. Intended to promote discussion of health in camps, and responsibility of each group—workers, growers, and others.

Laboratory Diagnosis of Rabies in Animals *(30 min., sd.,color, 16 mm., Order No. M458, $101.00, NMAC)* Demonstrates the latest laboratory techniques for examination of animals in the diagnosis of rabies. Shows the preparation of brain impressions, the inoculation of animals, the serum neutralization test, and the fluorescent antibody test.

Military Immunization: Smallpox Vaccination *(10 min., sd., color, 16 mm., Order No. MN 8568-b, $34.00, USN)* Depicts the procedures for smallpox vaccination and for observing and recording the effects of vaccination. Covers such items as storage and handling of the vaccine, cleansing of the vaccination site, use of the multiple pressure technique, and the recognition of primary, immediate, and accelerated reactions.

Miracle in Tonga *(16 min., sd., color, 16 mm., Order No. M-835, $55.00, NMAC)* Records the co-operative efforts of the Tongan Medical Department and the Communicable Disease Center to provide protection against smallpox for the Tongan people. A follow-up indicated that better than 98% of the 44,000 Tongans treated had successful vaccinations.

Ox Cell Hemolysin Test for Diagnosis of Infectious Mononucleosis *(9 1/2 min., sd., color, 16 mm., Order No. M-770, $32.50, NMAC)* A rapid and specific test, based on the presence of a hemolysis in the sera of I.M. patients that will cause lysis of ox cells in the presence of complements.

Preparation of Primary Mammalian Kidney Cell Cultures *(13 min., sd., color, 16 mm., Order No. M848, $45.25, NMAC)* Demonstrates a commonly used procedure for preparing primary cell cultures from monkey kidney tissue. Shows preparation of the animal, surgical procedures used in removing the kidneys, technique of dissecting the tissue and treatment with trypsin to obtain a cell suspension. The method of determining the cell concentration by microscopic means is explained.

The Public Health Aspects of Migrant Workers *(16 min., sd., b&w, 16 mm., Order No. 194, $28.50, NMAC)* Shows how communicable diseases can be discovered and controlled in the migrant labor group, and explains the problem of disease control created through the migration of laborers.

Rabies Control in the Community *(11 min., sd., b&w, 16 mm., Order No. 183, $19.25, NMAC)* Shows actual cases of rabies in both humans and dogs, how apathy of dog owners can permit rabies to become a community problem, and how concerted community action can prevent rabies.

Rabies F-A Staining *(8 min., sd., color, 16 mm., Order No. M763, $27.75, NMAC)* The technique of staining brain impressions with fluorescent antibody for the detection of negri bodies.

Safe Food *(9 min., sd., b&w, 16 mm., Order No. M-729, $15.75, NMAC)* For use with seasonal crop workers, and their families. Demonstrates methods migrant families can use in cooking, serving and storing food under camp conditions. Indicates how sound food practices help keep workers well; how poor ones lead to illness, as well as attracting flies, roaches, rats.

Safe Food *(English) (9 min., sd., 16 mm., Order No. M-826, b&w—$15.75, color—$31.00, NMAC)* For use with seasonal crop workers and their families. Demonstrates methods migrant families can use in cooking, serving and storing food under camp conditions. Indicates how sound food practices help keep workers well; how poor ones lead to illness, as well as attracting flies, roaches, rats.

Safe Food *(Spanish) (9 min., sd., 16 mm., Order No. M935, b&w—$15.75, color—$31.00, NMAC)* For use with seasonal crop workers and their families. Demonstrates methods migrant families can use in cooking, serving and storing food under camp conditions. Indicates how sound food practices help keep workers well; how poor ones lead to illness, as well as attracting flies, roaches, rats.

Techniques of Laboratory Diagnosis of Influenza *(17 min., sd., b&w, 16 mm., Order No. M-368, $30.50, NMAC)* Explains and demonstrates the step-by-step procedures used in the laboratory diagnosis of influenza, including the collection of specimens, the isolation of the virus by intra-amniotic inoculation of chick embryos, rough agglutination tests, titration, hemagglutination tests, and the establishment of antibody content.

MILITARY MEDICINE

Corpsman *(14 min., sd., color, 16 mm., Order No. MH 10278D, $48.50, USN)* The role of naval medical personnel in Vietnam.

Emergency Medical Treatment Unit: Phase I *(12 min., sd., b&w, 16 mm., Order No. MF 8-9212, $22.25, USA)* Outlines the objectives and services of the four phases of the emergency medical care program: (1) Self aid or buddy aid; (2) Emergency medical care and treatment; (3) Post attack medical support; (4) Post attack resupply of medical resources. Describes the emergency medical treatment unit furnished under Phase 1, itemizes the contents of the unit, and shows the supplies included in the various wound packs.

Introduction To Combat Fatigue: Doctor's Version *(31 min., sd., b&w, 16 mm., Order No. MN 3428-b, $53.50, USN)* Analyzes fear and relates the symptoms of combat fatigue (startled reaction, irritability, nightmares, tension, etc.) to their causes through flashbacks of simulated action in a combat area. For medical personnel.

Introduction To Combat Fatigue: Patient's Version *(30 min., sd., b&w, 16 mm., Order No. MN 3428-a, $52.00, USN)* Analyzes fear and relates the symptoms of combat fatigue (startled reaction, irritability, nightmares, tension, etc.) to their causes through flashbacks of simulated action in a combat area.

Military Medicine *(19 min., sd., b&w, 16 mm., Order No. AFIF 117, $33.75, DOD)* This is a report on military medicine reviewing the contributions of all the Services in the past century. The story touches on the fight against yellow fever, Schistosomiasis, malaria, and cholera; resuscitation techniques; management of burn victims; jet injection guns. Research goals and accomplishments in tissue grafting, nuclear medicine, submarine medicine, and aerospace medicine are described.

Penetrating Wounds of the Abdomen *(14 min., sd., color, 16 mm., Order No. MN 7470, $48.50, USN)* Demonstrates five steps for handling penetrating wounds of the abdomen: make a speedy and accurate diagnosis, keep the patient on his back, apply a sterile dressing, treat for shock, and prepare for speedy evacuation.

Sucking Wounds of the Chest *(12 min., sd., color, 16 mm., Order No. MN 7477, $42.00, USN)* Five important steps in prompt and proper treatment for a sucking chest wound are demonstrated by means of a simulated casualty on the battlefront.

Transportation of the Sick and Wounded *(27 min., sd., b&w, 16 mm., 1964, Order No. TF 8-3485, $47.00, USA)* Patient evacuation in the field by means of manual carries, litter carries, animal carries, and military vehicles and aircraft.

NEUROLOGY

Handle with Care *(28 min., sd., b&w, 16 mm., Order No. MIS-966, $48.75, NMAC)* Shows the varied services received by selected mentally retarded people in the greater Los Angeles area. Stresses the importance of having a place on which the families of the mentally retarded can depend for early diagnosis and evaluation as well as for continued assistance.

Credits: Narrator, Burt Lancaster.

Introduction to Aphasia *(30 min., sd., color, 16 mm., $101.00, VA)* Defines and describes aphasia; discusses receptive and emissive language functions; and differentiates various types of aphasia such as agnosia, agraphia, and paraphasia. Primarily animation.

Motor Conduction Velocity Studies of the Median and Ulnar Nerves *(7 1/2 min., sd., color, 16 mm., Order No. M-966, $26.00, NMAC)* Designed as an aid in defining the character of neuropathic lesions. The film presents a method of determining the velocity in motor fibers of the median nerve in the forearm.

Programmed Instruction and Aphasia Rehabilitation *(40 min., sd., b&w, 16 mm., Order No. M-886, $68.50, NMAC)* A four part film showing the programmed rehabilitation processes in teaching an aphasiac patient how to learn. Sessions are devoted to imitation and visual recognition, auditory comprehension, speech, and writing.

Seizure: The Medical Treatment and Social Problems of Epilepsy *(48 min., sd., b&w, 16 mm, $81.25, VA)* Explains the diagnostic and therapeutic treatment of epilepsy through a dramatized story of an epileptic veteran, the background of his condition, and his treatment in a Veterans Administration hospital. Describes the physiological basis of epilepsy, clinical manifestations of common types of seizures, and socio-economic problems facing an epileptic.

Social Adjustment for the Aphasic Patient *(26 min., sd., color, 16 mm., $88.00, VA)* Emphasizes the problems of social reorientation encountered by the aphasic patient, and explains the use and importance of group therapy and of corrective physical therapy, retraining of the language function, and contacts outside the hospital environment.

Teaching the Mentally Retarded—A Positive Approach *(25 min., sd., b&w, 16 mm., Order No. M-1453x, $43.75, NMAC)* A documentary following the progress made by four profoundly retarded children during a four month training program. The training emphasis is in areas of self-care: toilet training, dressing, eating, and manners, illustrating that even the profoundly retarded can learn rather complex skills. The principles of teaching used with the severely handicapped in an institutional setting may also be applied to the less retarded who may reside in the community.

Testing and Individual Therapy for the Aphasic Patient *(28 min., sd., color, 16 mm., $94.50, VA)* Explains the testing and rehabilitation procedures that are used in Veterans Administration hospitals for aphasics of different types; demonstrates various methods of psychological and personality testing; and shows patients undergoing therapy for motor, sensory, and formulation aphasia.

Verbal Impairment Associated with Brain Damage *(16 min., sd., color, 16 mm., Order No. M-1112, $55.00, NMAC)* In a series of testing sequences, speech therapists demonstrate how three syndromes of verbal impairment can be differentiated from each other by a careful analysis based on a linguistic description. A systematic replicable method for identifying and sorting out symptoms is shown. Professional use only.

Year of Birth *(28 min., sd., b&w, 16 mm., Order No. MIS-659, $48.75, NMAC)* Depicts, in story form, facts of pregnancy, delivery, and the first year of life. Shows research being done at the National Institute of Neurological Disease and Blindness for prevention and control of cerebral palsy and other neruological diseases in infants.

NURSING AND PATIENT CARE

Basic Care of the Patient—The Bed Bath *(22 min., sd., b&w, 16 mm., 1964, Order No. TF 8-3387, $38.50, USA)* Value of bed bath for patient; equipment and preparation for bath; steps in giving the bath; and after bath care.

Basic Care of Patients—Part I—Cleaning the Patient's Unit and Making an Unoccupied Bed *(15 min., sd., b&w, 16 mm., Order No. TF 8-2471, $27.00, USA)* Stripping bed of soiled linen—Cleaning bed, chair, and bedside cabinet—Making bed with clean linen—Final straightening of the unit.

Basic Care of Patients—Part VI—The Enema *(10 min., sd., b&w, 16 mm., Order No. TF 8-2476, $17.50, USA)* Proper way to administer cleansing enema—Preparation of equipment and solution—Preparation of patient—Administering the enema—After-care of patient and equipment—Observation of results.

Basic Care of Patients—Part V—Feeding the Patient *(8 min., sd., b&w, 16 mm., Order No. TF 8-2475, $14.25, USA)* How corpsman prepares patient for meals, serves trays, assists semi-helpless and postoperative patients, and feeds helpless patients.

Basic Care of Patients—Part III—Making an Occupied Bed *(17 min., sd., b&w, 16 mm., Order No. TF 8-2473, $30.50, USA)* Positioning the patient—Sequence and technique for removing foundation linen, draw sheets, top sheets, and pillow cases—Replacing them with clean counterparts.

Basic Care of Patients—Part IV—Physical Comforts *(11 min., sd., b&w, 16 mm., Order No. TF 8-2474, $19.25, USA)* Mouth care of conscious and unconscious patients—Changing position of patient in bed—use of helpful appliances.

Basic Care of Patients—Part IX—Postoperative Care *(12 min., sd., b&w, 16 mm., Order No. TF 8-2479, $22.50, USA)* Preparation of bed and unit—Transfer of unconscious patient to his bed—Care during unconscious state and as he regains consciousness.

Basic Care of Patients—Part VIII—Preoperative Care *(9 min., sd., b&w, 16 mm., Order No. TF 8-2478, $15.75, USA)* Mental and physical care given the patient before surgery—Duties of each member of the medical team—Stress on allaying patient's fears.

Basic Care of Patients—Part VII—Sterile Technique *(13 min., sd., b&w, 16 mm., Order No. TF 8-2477, $23.75, USA)* Sterlizing equipment with moist heat, dry heat, and chemicals—Handling sterile equipment—Care of equipment when not in use—Keeping area being treated sterile.

Bathing the Patient: Home Care *(24 min., sd., b&w, 16 mm., Order No. 403 $42.25, USOE)* Procedures for bathing a patient in the home; equipment and supplies; methods of bathing—including draping, soaping, rinsing, and drying of each body part; techniques of oral hygiene, massaging, and shaving.

The Bed Bath *(19 min., sd., b&w, 16 mm., Order No. MN 8567-d, $33.75., USN)* Shows the supplies and equipment needed, demonstrates the order of the bath, and the correct techniques to follow in giving the patient a back rub.

Body Mechanics *(8 1/4 min., sd., color, 16 mm., Order No. M-1336, $29.25, NMAC)* Shows "do's" and don't's" of lifting techniques used by physical therapists. Emphasizes use of proper body mechanics as a protection to both patient and therapist.

Care of the Cardiac Patient *(33 min., sd., b&w, 16 mm., Order No. OE 419, $56.75, USOE)* Nursing care given a cardiac patient, including comfort, rest, sleep, diet, feeding, elimination, cleanliness, and diversional and occupational therapy.

Care of the Newborn Baby: The Nurse's Role in Instructing the Parents *(31 min., sd., b&w, 16 mm., Order No. OE 412, $53.50, USOE)* Nurse's functions and duties in teaching parents to care for newborn babies; what the nurse can do in the home, clinic, and hospital; and how to hold, dress, bathe, and feed a baby.

Care of the Patient with Diabetes Mellitus: Complicated *(23 min., sd., b&w, 16 mm., Order No. OE 418, $40.50, USOE)* Nurse's role in the diagnosis and treatment of coma and insulin shock, and the role of the nurse, doctor, dietician, and psychiatrist in assisting the patient to develop a healthy mental attitude toward his condition.

Care of the Patient with Diabetes Mellitus: Uncomplicated *(29 min., sd., b&w, 16 mm., Order No. OE 417, $50.25, USOE)* Symptoms of diabetes; how the nurse teaches the patient to administer insulin injections, regulate diet, and make the Benedict test for sugar in the urine.

Care of the Sick and Injured by Hospital Corpsmen—Chain of Asepsis *(28 min., sd., b&w, 16 mm., Order No. MN 1511F, $48.75, USN)* Designed to indoctrinate hospital corpsmen in sterile techniques and its absolute necessity. Emphasizes importance of sterile linens, pre-operative preparation of the patient, scrub technique, preparation of the operating room, chain of asepsis during an operation.

Catheterization of the Paralytic Patient *(5 min., sd., color, 16 mm., Order No. M-964, $18.00, NMAC)* Purpose of the film is to show the technique used in catheterizing a paralytic patient. Content: 1—Precautions to prevent infection, 2—Complete procedure of inserting and operating catheter.

Chronic Obstructive Pulmonary Disease: Breathing Patterns *(5 min., sd., color, 16 mm., Order No. M-1569, $18.00, NMAC)* Shows patterns of breathing and how to teach them to a patient with chronic obstructive pulmonary disease.

Chronic Obstructive Pulmonary Disease: Diaphragmatic Breathing *(6 3/4 min., sd., color, 16 mm., Order No. M-1571, $24.50., NMAC)* Shows method for correcting faulty breathing patterns of the patient with chronic obstructive pulmonary disease with the ultimate goal of restoring normal use of the diaphragm.

Chronic Obstructive Pulmonary Disease: Intermittent Positive Pressure Breathing *(6 min., sd., color, 16 mm., Order No. M-1570, $21.25, NMAC)* Explains how to teach a patient with chronic obstructive pulmonary disease to use a mechanical respirator as an adjunct to the total respiratory rehabiliation program.

Chronic Obstructive Pulmonary Disease: The Use of Oxygen in Physical Therapy Management *(5 3/4 min., sd., color, 16 mm., Order No. M-1572, $21.51, NMAC)* Shows how various machines, depending on the particular need, are used to supply oxygen to the patient with chronic obstructive pulmonary disease.

Ear, Nose and Throat Treatments *(15 min., sd., b&w, 16 mm., Order No. MN 8576-i, $27.00, USN)* Explains the duties and responsibilities of hospital corpsmen in providing certain simple treatments for the ear, nose and throat as ordered by medical officers, for patients in wards of naval hospitals. Depicts in detail the following treatments: instillation of ear drops; irrigation of the ear; instillation of nose drops; application of a nasal spray; application of a throat spray; and irrigation of the throat.

Enemas *(20 min., sd., b&w, 16 mm., Order No. MN 1511-V, $35.25, USN)* Discusses two main types of enemas, retention and evacuant, and demonstrates the procedure for giving them and the after-care of the patient and equipment.

Feeding the Patient *(15 min., sd., b&w, 16 mm., Order No. OE 404, $27.00, USOE)* Presents factors which affect appetite and digestion; preparation of the environment and the patient for the meal; proper balance of food and arrangement of the tray; individualized feeding care; and factors to be considered in after-care of the patient.

Handwashing in Patient Care *(15 min., sd., color, 16 mm., Order No. M-462, $51.75, NMAC)* Demonstrates the importance of the conscientious practice of hand washing in order to avoid transmission of pathogens.

The Hemiparetic Patient; Sitting Up and Lying Down in Bed *(8 min., sd., color, 16 mm., Order No. M-1556, $27.75, NMAC)* Shows how the hemiplegic patient learns to sit up and lie down.

The Hemiplegic Patient, Part II, Bed Positioning of the Acute Hemiplegic Patient *(7 1/2 min., sd., color, 16 mm., Order No. M-1109, $26.00, NMAC)* Shows how to position hemiplegic patient in a bed, how to move patient to new positions and when and how to use pillows to brace body areas.

The Hemiplegic Patient, Part III, Evaluation of the Hemiplegic Patient for Standing *(7 1/2 min., sd., color, 16 mm., Order No. M-1110, $26.00, NMAC)* Demonstrates muscle testing techniques used to evaluate a hemiplegic's capability to stand.

The Hemiplegic Patient, Part IV, Passive Range of Motion *(8 1/2 min., sd., color, 16 mm., Order No. M-1111, $29.25, NMAC)* Shows correct techniques used in passive range of motion activities with a hemiplegic patient.

How to Observe Nursing Activities. Part I *(14 min., sd., b&w, 16 mm., Order No. M-315, $25.50, NMAC)* **Part II** *(10 min., sd., b&w, 16 mm., Order No. M-315, $17.50, NMAC)* A two-part film to be used as an aid in planning nursing activity observation. Part I shows activities which are routine and easily identified. Part II depicts situations involving more complex or difficult to code. Recommended for professional use.

Intensive Care *(18 min., sd., color, 16 mm., Order No. M-693, $61.75, NMAC)* Explains establishment and operation of an intensive patient care ward in the hospital. Gives a detailed description of the intensive care room and its relation to progressive patient care. Covers the flexibility of the units, the skilled staff which operates the unit, and some of the administrative policies.

Intravenous Administration of Fluids *(18 min., sd., b&w, 16 mm., Order No. MN 8576-e, $32.00, USN)* Describes the responsibilities of hospital corpsmen and demonstrates the specific procedures that they must follow when preparing a patient and in assisting the medical officer to administer large doses of fluids to patients in naval hospitals.

Introduction to Nursing in a Coronary Care Unit *(20 min., sd., color, 16 mm., Order No. M-1461, $88.00, NMAC)* Demonstrates the nurse's role in the care of the coronary patient. Includes life-saving procedures which should be used before the doctor arrives and explains electronic equipment which can determine the type of heart attack the patient is having.

Isolation Technique *(24 min., sd., b&w, 16 mm., 1960, Order No. MN 8576K, $42.25, USN)* Demonstrates how to perform medical aseptic techniques when caring for a patient with a communicable disease. Shows how to set up an isolation unit; how to organize the work; where and when not to wear the isolation gown and mask; how and when to wash the hands; how to remove and clean items used in the unit.

Lumbar Puncture *(13 min., sd., b&w, 16 mm., Order No. MN 1511-n, $23.75, USN)* Shows how to prepare a patient for a lumbar puncture; indicates the position of the patient; describes the operation; and by animation demonstrates what happens when the injection is made.

Making the Occupied Bed *(15 min., sd., b&w, 16 mm., Order No. MN 8567-c, $27.00, USN)* Demonstrates the procedure to be followed and the supplies and equipment needed to arrange a bed unit in the hospital room or ward while the bed is occupied by a patient.

Making a Recovery Bed *(10 min., sd., b&w, 16 mm., Order No. MN 8576-b, $17.50, USN)* Demonstrates the procedure to be followed and the equipment and supplies needed to arrange a bed unit in the hospital ward or room to ensure a safe, warm, comfortable bed for the patient returning from surgery.

Making an Unoccupied Bed *(14 min., sd., b&w, 16 mm., Order No. MN 8576-a, $25.50, USN)* Demonstrates the procedures to be followed and the equipment and supplies needed to arrange a bed unit in a hospital ward or room.

The Nurse Combats Disease *(12 min., sd., color, 16 mm., Order No. M-543, $42.00, NMAC)* Shows the ways in which nurses safeguard the public, by understanding the transmission of disease and measures necessary to prevent disease and promote recovery from illness.

Nursing Service in the Navy: The Ward Nurse *(16 min., sd., b&w, 16 mm., 1954, Order No. MN 9225-c, $28.50, USN)* Explains the major responsibilities of a ward nurse in a Naval hospital—those bearing directly on the care of individual patients and those involved in the management of the ward as a unit.

Oral Administration of Medications *(14 min., sd., b&w, 16 mm., Order No. MN 8576J, $25.50, USN)* Presents the duties of hospital corpsmen in administering medications by mouth to patients in wards of naval hospitals. Demonstrates in detail the preparation of medication and treatment cards in accordance with the orders of medical officers; the use of medication and treatment board as a convenient method for reminding personnel to administer medications at correct times; the preparation of specific doses of various types of oral medications; and the procedure to be followed when administering the medications to patients.

Postoperative Care *(14 min., sd., b&w, 16 mm., Order No. MN 8576g, $25.50, USN)* Describes the duties and responsibilities of hospital corpsmen in caring for a patient immediately after surgery. Depicts in detail the preparation of the bedside area; inspection of operative site for bleeding; observation and recording of temperature, pulse, respiration, and blood pressure; assisting the respiration of the patient, if necessary, including the technique of removal of an artificial airway; administration of medications for pain; assisting the patient to move in bed; assisting the patient to void; observation of patient for signs of any complication following the surgery; and general encouragement toward recovery.

Postural Drainage; Patient Positioning *(8 1/2 min., sd., color, 16 mm., Order No. M-1573, $29.25, NMAC)* Demonstrates the various positions of the body which are used to drain the lung segments of the patient with chronic obstructive pulmonary disease.

Preoperative Care *(16 min., sd., b&w, 16 mm., Order No. MN8576f, $28.50, USN)* Presents the duties and responsibilities of hospital corpsmen in preparing a patient for surgery in the 16- to 24-hour period immediately preceding the operation. Demonstrates the specific procedure of checking for completion of laboratory work; supervision of patient's meal; intake of water and other liquids orally; administration of the cleansing enema; preparation of the skin at the operative site; administration of hypnotic the evening before surgery; provision of routine morning care on day of surgery; and procedures to be accomplished immediately before patient is taken to surgery.

Technique for Propelling Standard Wheelchair by Hemiplegic Patient *(4 3/4 min., sd., color, 16 mm., Order No. M-1250, $18.00, NMAC)* Demonstrates the manner in which a hemiplegic can be taught to use a wheelchair.

Therapeutic Uses of Heat and Cold. Part I: Administering Hot Applications *(21 min., sd., b&w, 16 mm., Order No. OE 408, $37.00, USOE)* Body reactions to heat; use of heat in the alleviation of pain; how to apply hot water bottles, electric pads, chemical pads, and paraffin bath; use hot soak, compresses, infra-red lamp, and shortwave diathermy.

Therapeutic Uses of Heat and Cold. Part II: Administering Cold Applications *(22 min., sd., b&w, 16 mm., Order No. OE 409, $38.50, USOE)* Body responses to cold; therapeutic uses of cold; how to administer contrast baths and ice bags; apply ice packs as anesthesia; and use refrigerating blankets and cold chamber.

Transferring from Wheelchair to Bed—Affected Side of Patient Next to Bed *(5 1/2 min., sd., color, 16 mm., Order No. M-1248, $19.50, NMAC)* Demonstrates technique of transferring patient from a wheelchair to a bed with his affected side next to the bed.

Transferring from Wheelchair to Bed—Non-Affected Side of Patient Next to Bed *(4 1/4 min., sd., color, 16 mm., Order No. M-1249, $16.25, NMAC)* Demonstrates technique of transferring patient from a wheelchair to a bed with his non-affected side next to the bed.

Transferring from Wheelchair to Bed with Maximal Assistance *(4 min., sd., color, 16 mm., Order No. M-1262, $14.75, NMAC)* Shows safest and easiest way to transfer from wheelchair to bed the patient who needs maximal assistance.

Use of the Condom Appliance for the Incontinent Patient *(8 1/2 min., sd., color, 16 mm., Order No. M-1335, $29.25, NMAC)* Presents in detail the assembly and application of the condom appliance, which provides a means whereby the incontinent male patient can be kept dry without the use of an indwelling catheter.

Use of Turning Frames *(35 min., sd., b&w, 16 mm., 1966, Order No. TF 8-3695, $60.25, USA)* Teaches nursing personnel the clinical requirement for and proper use of turning frames.

Vital Signs. Part 1: Cardinal Symptoms *(21 min., sd., b&w, 16 mm., Order No. MN 8211-A, $37.00, USN)* Explains temperature, pulse, respiration, and blood pressure by means of live action, animation, art work, and sound effects; tells how these vital signs present a picture of the condition of the body.

Vital Signs. Part 3: Taking Blood Pressure *(11 min., sd., b&w, 16 mm., Order No. MN 8211-C, $19.25, USN)* Explains and demonstrates the principles of taking systolic and diastolic pressures and the procedures followed with patients. Uses sound effects to show the significant changes in pulse tone.

Vital Signs. Part 2: Taking Temperature, Pulse, and Respiration *(20 min., sd., b&w, 16 mm., Order No. MN 8211b, $35.25, USN)* Demonstrates, in live action, the techniques of taking temperature (oral, rectal, axillary), pulse, and respiration of patients with a variety of conditions. Shows equipment needed and includes sanitary procedures and charting.

The Vital Signs and Their Interrelation: Body Temperature, Pulse, Respiration, Blood Pressure *(32 min., sd., b&w, 16 mm., Order No. OE 406, $55.25, USOE)* Describes the physiology of the respiratory, heat regulatory, and circulatory systems and their interrelationships; shows how to ascertain and record the vital signs—temperature, pulse, respiration, and blood pressure.

Working Together *(20 min., sd., color, 16 mm., Order No. M-528, $68.25, NMAC)* Draws from the experiences of several hospitals and nursing homes which have worked out mutual agreements for the co-operative care of the chronically ill aged. Shows how such a co-operative effort is beneficial to the hospital, the nursing home, and the patient.

NUTRITION

Nutrition Survey: Republic of Colombia *(28 min., sd., color, 16 mm., 1960, Order No. M-447, $94.50, NMAC)* Documents a nutritional survey of the population of Colombia and shows findings, routines, and problems involved in staging such a survey.

Nutrition Survey: Republic of Lebanon *(21 min., sd., color, 16 mm., 1961, Order No. M-516, $71.50, NMAC)* Documents a nutritional survey of the population of Lebanon by a team of nutritional scientists of ICNND, in co-operation with the Government of Lebanon, various United Nations Agencies, and U.S. missions, such as UNRWA and FAO. Appraisal was made of the health of the people, food availability, dietary patterns, food technology, and the physical and biochemical status of representative food samples taken from various segments of the population.

PHARMACOLOGY AND TOXICOLOGY

Fluorometric Determination of Serum Phenylalanine (Short Method) Part I *(13 min., sd., color, 16 mm., Order No. M-1417A, $45.25, NMAC)* Shows how reagents are prepared for rapid measurement of phenylalanine levels in blood serum, using a fluorometer.

Fluorometric Determination of Serum Phenylalanine (Short Method) Part II *(15 1/2 min., sd., color, 16 mm., Order No. M-1417B, $53.50, NMAC)* Demonstrates the procedure for rapid measurement of phenylalanine levels in blood serum, using a fluorometer.

Fluorometric Determination of Serum Phenylalanine, Part I, Preparation of Reagents and Standard *(13 min., sd., color, 16 mm., Order No. M-1349, $45.25, NMAC)* Demonstrates formulations and techniques of preparing the reagents used in the fluorometric determination of phenylalanine.

Fluorometric Determination of Serum Phenylalanine, Part II, Procedure *(17 3/4 min., sd., color, 16 mm., Order No. M-1350, $61.75, NMAC)* Demonstrates the treatment of serum samples, use of reagents and water baths to produce maximum fluorescence intensity. Shows how to set up the fluorometer and how to adjust and read it.

Fluorometric Determination of Serum Tyrosine, Part I, Preparation of Reagents *(10 min., sd., color, 16 mm., Order No. M-1400, $34.00, NMAC)* Demonstrates formulations and techniques of preparing reagents used in the fluorometric determination of tyrosine.

Fluorometric Determination of Serum Tyrosine, Part II, Procedure *(10 min., sd., color, 16 mm., Order No. M-1401, $34.00, NMAC)* Shows treatment of serum samples and methods of developing maximum fluorescence density. Demonstrates use of fluorometer and how to plot final readings.

PHYSIOLOGY

Charlie *(22 min., sd., color, 16 mm., 1967, Order No. FA-618, $80.25, FAA)* As the narrator of this dramatic presentation says: "People do drink and fly, and they do get away with it. Dr. Charlie Preston works hard but he also knows when to let up. And like a lot of us, he does enjoy a drink. The fact is that a man's judgment is changed by alcohol—even a little of it." Cleared for TV.

Heat Disorders: General Effects of Heat on Man *(22 min., sd., b&w, 16 mm., Order No. TF-8-2762, $38.50, USA)* Describes the causes, symptoms, treatment, and prevention of the three major heat disorders that may be encountered by troops when living and working in extremely hot climates—heat cramps, heat exhaustion, and heat stroke.

High Altitude, High Speed, Flight Problems: Physiological Effects *(23 min., sd., color, 16 mm., Order No. MN 6915-a, $78.25, USN)* Describes physiological effects on the pilot of flight at high altitude and high speeds. Explains the operation of oxygen equipment, cabin pressurization and ventilation, "G" suits, and escape methods. Demonstrates oxygen equipment, pre-flight and in-flight checks.

Medical Aspects of High Intensity Noise: Ear Defense *(21 min., sd., b&w, 16 mm., Order No. MN 9318-c, .37.00, USN)* Points out the hazards associated with high noise levels produced by jet aircraft and other noisy equipment found ashore and aboard ship. Describes the nature of noise, its effect on hearing, and various devices that are used for the protection of hearing.

Medical Aspects of High Intensity Noise: General Effects *(21 min. sd., b&w, 16 mm., Order No. MN 9318-a, $37.00, USN)* Explains the increasingly serious hazards of high intensity noise; describes the nature of noise and some of its physiological and psychological effects; and gives examples of sounds of extreme intensity approximating conditions found near jet aircraft, artillery, and other noise-producing equipment.

Physiology of High Altitude Flying *(13 min., sd., color, 16 mm., Order No. MN 5311, $45.25, USN)* A cartoon character named Stanley illustrates the dangers of high altitude flying and is enlightened on the standard safety precautions.

Prevention of Heat Casualties *(25 min., sd., color, 16 mm., 1959, Order No. MN 8965, $84.75, USN)* Introduces the problem of heat stress and the principal types of heat illness that may occur when men are subjected to heavy work output in conditions of severe climatic heat.

Rx for Flight *(18 min., sd., color, 16 mm., 1966, Order No. FA-606, $66.00, FAA)* Shows some of the aero-medical problems that face general aviation pilots. In a cause-and-effect manner, this film briefly covers such areas as alcohol, drugs, hypoxia, disorientation, smoking and safety equipment. Cleared for TV.

Vision in Military Aviation—Illusions *(32 min., sd., color, 16 mm., Order No. MN 9480B, $107.50, USN)* False sensations or illusions experienced while operating high-performance aircraft. Orientation and equilibration on ground and in the air. Prevention of illusions and recovery from them.

Vision in Military Aviation—Sense of Sight *(25 min., sd., color, 16 mm., Order No. MN 9480A, $84.75, USN)* Anatomy and physiology of the eye. Structure of the retina and functions of the rods and cones for light discrimination, dark-adaptation and techniques for relying on rod vision. Effects of - G -, carbon monoxide, medications, hypoxia, and over-exposure to glare.

PSYCHIATRY AND PSYCHOLOGY

Activity for Schizophrenia *(25 min., sd., b&w, 16 mm., $43.75, VA)* Explains how modern (1950) concepts of activity are applied to distinctive needs of schizophrenic patients; shows particularly how corrective therapists under the guidance of psychiatrists motivate patients from lower levels of activity to more socialized areas by establishing strong interpersonal relationships through the sensory appeal of intensified physical activities.

An Approach to Understanding Dynamics *(34 min., sd., b&w, 16 mm., $58.75, VA)* Depicts an interview between a patient and a psychiatrist; analyzes the dynamics of the interview; and explains the patient's reactions to certain experiences and the meaning of these reactions to the psychiatrist.

Behavior Therapy with an Autistic Child *(42 min., sd., b&w, 16 mm., Order No. MIS-895, $71.75, NMAC)* Demonstrates the systematic application of reinforcement in the form of candy, for responsive behaviors by a five year old autistic child. An introduction and final summary statement bring the demonstration within the framework of current work in behavior therapy.

Bold New Approach *(28 min., sd., b&w, 16 mm., Order No. AM-1367, $48.75, NMAC)* Film explains the philosophy behind Comprehensive Community Mental Health Centers, stressing the concepts of comprehensive and continuous care. Services include inpatient and outpatient treatment for all ages, day and night hospital, emergency service and rehabilitation services. Shows that such a Center can be created and molded to the needs of any type of community.

Booked for Safekeeping *(33 min., sd., b&w, 16 mm., Order No. MIS-561, $56.75, NMAC)* Demonstrates the proper management of mentally ill persons by members of the large city police department to prepare the mentally ill persons for their subsequent medical treatment.

A Clinical Picture of Anxiety Hysteria *(26 min., sd., b&w, 16 mm., $45.50, VA)* Illustrates psychotherapeutic interviewing principles and techniques through an unrehearsed interview between a psychiatrist and a patient suffering from anxiety hysteria.

A Clinical Picture of Claustrophobia *(31 min., sd., b&w, 16 mm., $53.50, VA)* Illustrates psychotherapeutic interviewing principles and techniques through an unrehearsed interview between a psychiatrist and a patient suffering from claustrophobia.

A Community Mental Health Center—The New Way *(10 min., sd., b&w, 16 mm., Order No. MIS-682, $34.00, NMAC)* This animated film stresses the need for community mental health centers. Demonstrates how these centers tie together mental health services such as emergency care, in-patient and out-patient care, partial hospitalization, consultation and education.

The Cry for Help *(33 min., sd., b&w, 16 mm., Order No. MIS-682, $56.75, NMAC)* A training film for police officers and law enforcement agencies, designed to develop a feeling of concern and understanding in handling the suicidal person. Presents some of the major causes of suicide and problems of handling; teaches law enforcement officers to recognize their "cry for help."

The Headbangers *(30 min., sd., b&w, 16 mm., Order No. AM-1411, $52.00, NMAC)* Describes a treatment program for retarded, severely self-destructive children. Pictures several institutionalized children who manifest such behavior through the symptom of head-banging, one of whom blinded herself and was subsequently placed in a special study unit. Emphasizes the persistent, co-operative effort of the staff and therapist as the primary mode of treatment.

Insomnia *(20 min., sd., b&w, 16 mm., Order No. MN 3428-e, $35.25, USN)* Stresses that insomnia is the result of worries, often minor, and of being "wound up too tight." Demonstrates a method of relaxing all parts of the body and coaxing oneself to go to sleep.

The Mental Status Examination. *(34 min., sd., b&w, 16 mm., Order No. M-561, $58.75, NMAC)* Demonstrates good techniques of initial or mental status interviews in psychiatric practice. It also shows how information pertaining to behavior and appearance, intelligence, emotions, and perceptions obtained in such interviews is compiled and analyzed to form the basis for subsequent psychiatric treatment.

Non-verbal Communication *(27 min., sd., b&w, 16 mm., $47.00, VA)* Discusses the recognition of the clues of nonverbal communication and the manner in which these clues can be used in an interview situation to obtain information and to further therapy. Illustrates the various points through pictures, with subtitles, of actual unrehearsed interview situations.

Phantom Pain *(32 min., sd., b&w, 16 mm., Order No. M-721, $55.25, NMAC)* Documents an interview between a psychiatrist and a patient who lost a foot in an accident and now feels considerable pain in the missing extremity. Includes interviewing technique as well as description of phantom pain. Professional use only.

A Positive Approach to the Psychiatric Patient *(30 min., sd., b&w, 16 mm., $52.00)* Shows the treatment in Veterans Administration hospitals for psychiatric patients who have emerged from acute episodes of mental illness but who are not yet well enough to leave the hospital. Uses a hospital ward unit as the focal setting, and stresses the roles of the nurse, aide, and physician.

Preface to a Life *(29 min., sd., b&w, 16 mm., Order No. MIS-266, $50.25, NMAC)* Parental influence on a child's developing personality, illustrated by a series of episodes showing the effects of an overly solicitous mother and an overly demanding father; and in contrast, the healthy childhood resulting when both parents accept their child as an individual.

Psychotherapeutic Interviewing: Introduction *(11 min., sd., b&w, 16 mm., $19.25, VA)* Explains basic principles of the doctor-patient relationship, and the structure and goals of the psychotherapeutic interview.

Psychotherapeutic Interviewing: Method of Procedure *(32 min., sd., b&w, 16 mm., $55.25, VA)* Depicts an interview between a patient and a psychiatrist; analyzes the principles and methods employed in the interview; and emphasizes the importance of the doctor-patient relationship, planning in terms of goals, focusing upon relevant topics, and minimal activity on the part of the doctor.

The Rhesus Monkeys of Santiago Island, Puerto Rico *(33 min., sd., color, 16 mm., Order No. MIS-721, $110.75, NMAC)* Presents scientific observation carried out by scientists on a group of free ranging rhesus monkeys. Among the behavior patterns the film explores, are dominant-subordinate behavior among individuals and groups, feeding, mother-infant relations, and mating.

Shades of Gray *(66 min., sd., b&w, 16 mm., Order No. PMF 5047, $114.75, USA)* Portrays through dramatized situations and case histories various mental disorders experienced by soldiers during training and combat, ranging from mild anxiety states to severe depressive reactions and paranoid psychoses; traces the life patterns of each affected soldier and relates his early familial and environmental experiences to the circumstances which precipitate his mental breakdown; demonstrates methods of psychotherapy, including emotional catharsis, narcoanalysis, hypnotic suggestions, and group therapy; and makes the point that in terms of mental health, no one is either "black" or "white;" everyone is a "shade of gray."

Showdown *(13 min., sd., color, 16 mm., Order No. M-1213, $45.25, NMAC)* The young new supervisor attempts to get full co-operation and support from an older problem worker. The situation is commented on by co-workers, and the supervisor's boss. The relationship between the new young supervisor and his problem employee deteriorates to the point that the former proposes disciplinary action only to learn that his boss may not support him.

Suicide Prevention in Hospitals *(30 min., sd., b&w, 16 mm., $52.00, VA)* How hospital personnel can anticipate and prevent suicide attempts; based on 12 years of research by the VA's Unit for the Study of Unpredicted Death.

Under Pressure *(31 min., sd., b&w, 16 mm., Order No. MIS-894, $53.50, NMAC)* Shows the pressures under which members of a large city police department must work. Stresses the importance of handling any situation which may occur during a policeman's daily routine patrol.

Working for Better Public Health Through Recognition of Feelings *(25 min., sd., b&w, 16 mm., Order No. M-8, $43.75, NMAC)* Shows synchronous treatment of interviews typical of both acceptable and unacceptable human relations situations in public health work, discusses the problems involved, and advances the theory that it is better to uncover and discuss feelings than to concentrate entirely upon the problem itself.

RADIOLOGY

Fallout Protection for Hospitals *(25 min., sd., color, 16 mm., Order No. M-598, $84.75, NMAC)* Based on a report of hospital design studies, illustrates graphically recommended methods for providing protection to personnel, patients, and vital functional components of a 150-bed hospital, from the effects of a gamma radiation from the fallout of a nuclear explosion.

Medical Aspects of Nuclear Radiation *(20 min., sd., color, 16 mm., Order No. MF 8-7897, $68.25, USA)* Explains effects of radiation upon the human body, internal and external radiation hazards, and the relative gravity of the hazards of nuclear radiation, blast, and heat.

The Medical Effects of the Atomic Bomb. Part 1: Physics, Physical Destruction, Casualty Effects *(32 min., sd., color, 16 mm., Order No. PMF 5058, $107.50, USA)* Gives an explanation of nuclear physics, fission and general reaction, thermal energy and mechanical force, nuclear radiation and ionizing effects; and portrays the physical destruction and casualty effects of atomic bombing.

The Medical Effects of the Atomic Bomb. Part 2: Pathology and the Clinical Problem *(37 min., sd., color, 16 mm., Order No. PMF 5148, $124.00, USA)* Explains the thermal, traumatic, and radiation effects of atomic bombing; clinical observations; medical diagnosis and prognosis; and includes pathological material for illustrative purposes. For medical personnel only.

Radiation and Public Health *(25 min., sd., color, 16 mm., Order No. M-1576, $84.75, NMAC)* Describes the current activities of the Division of Radiological Health, U.S. Public Health Service, directed toward the development of a nation-wide Federal-State Health Agency program capable of insuring that the benefits of radiation are accrued with a minimum of health risks to the public.

Radiological Health Laboratory *(13 min., sd., color, 16 mm., 1966, Order No. SFP 1410, $45.25, USAF)* Portrays mission of the Air Force Radiological Health Laboratory at Wright-Patterson AFB, Ohio. Explains the laboratory's programs of monitoring and measuring radiation dosages received by personnel in hazardous occupations world-wide. Cleared for TV.

Total Body Measurement of Natural and Acquired Radioactivity in Man *(11 min., sd., color, 16 mm., Order No. PMF 5336, $37.25, USA)* Depicts the new methods and facilities devised at Walter Reed Army Medical Center to study the effects of the nuclear program on man. Describes the features, functioning, and use of the "human counter," "iron room," and "medical fluoroscopy stand" to measure type and degree of radioactivity in man.

REHABILITATION

Ambulation Training of the Hemiplegic Patient *(9 3/4 min., sd., color, 16 mm., Order No. M-1333, $34.00, NMAC)* Shows beginning ambulation training of the hemiplegic patient using a handy standy or a pick-up strap, according to the particular needs of the patient. These temporary assists are used with the patient inside the parallel bars. Delivery of a brace can take as long as six weeks and the hemiplegic's ambulation program need not be delayed that long.

Basic Wheelchair Features and Handling *(8 min., sd., color, 16 mm., Order No. M-912, $27.75, NMAC)* Describes the basic features which are needed in a wheelchair that is generally suitable for a person who can stand when getting into and out of the chair.

Crutch Balancing for the Paraplegic Patient *(10 1/2 min., sd., color, 16 mm., Order No. M-1407, $35.75, NMAC)* The paraplegic patient with braces and crutches is now outside of the parallel bars where he goes through a series of crutch movements, weight shifting and total body balance with the constant use of the tripod principles of support. Spotting techniques for all activities are demonstrated. The patient finally masters the drag-to, the swing-to, and the swing-through with the use of crutches.

Diary of a Sergeant *(22 min., sd., b&w, 16 mm., Order No. MF8-1129, $38.50, USA)* Traces the treatment of an amputee in an army hospital and his rehabilitation, including his skillful manipulation of artificial arms and hands.

Elevation Activities of the Paraplegic Patient *(6 3/4 min., sd., color, 16 mm., Order No. M-1408, $24.50, NMAC)* With all level ambulation activities mastered, the paraplegic patient now demonstrates the ascent and descent of curbs, steps and ramps with the use of axillary crutches. Initial practice in the parallel bars is first explained and progression made to outside the bars. Spotting techniques for the therapist are emphasized.

Exercises To Mobilize the Shoulder *(8 min., sd., color, 16 mm., Order No. M-914, $27.75, NMAC)* The film shows exercises to preserve or restore range of motions of the shoulder. The motions which are possible are combinations of basic movements in certain planes. Movements shown are Extension and Flexion; Abduction; External and Internal Rotation; combination of movements; Pendulum Exercises; Abduction and Circumduction. Exercises are performed independently and when the patient cannot perform this activity alone he may be assisted by another person. The patient may also assist himself with a rope and pulley, a shoulder wheel, and a finger ladder.

Gait Training of the Paraplegic *(7 1/2 min., sd., color, 16 mm., Order No. M-1406, $26.00, NMAC)* Picking up where the first of this series left off, the patient is taught the drag-to, the swing-to, and the swing-through gaits in the parallel bars. The trunk, hand, head, and foot positioning are noted in each gait sequence, as well as the proper spotting techniques. The purpose and use of each of these gaits is mentioned. Axillary crutch measurement is also demonstrated.

The Hemiparetic Patient; Changing Position in Bed *(7 1/4 min., sd., color, 16 mm., Order No. M-1550, $26.00, NMAC)* Shows how the hemiparetic patient is taught to move from side to side and to roll over.

Independent Ambulation and Elevation Activities of the Hemiplegic Patient *(9 3/4 min., sd., color, 16 mm., Order No. M-1334, $34.00, NMAC)* Illustrates proper teaching methods to be used with the hemiplegic patient as he progresses to the use of a care for independent ambulation, curb, ramp, and stair climbing.

Introduction to Prolonged Artificial Ventilation *(40 min., sd., color, 16 mm., 1962, Order No. PMF 5348, $133.75, USA)* Purpose is to teach the principles of safe prolonged mechanical artificial ventilation, safe tracheotomy care, and transportation of apneic patients.

Journey Back *(20 min., sd., b&w, 16 mm., $35.25, VA)* Dramatized story of the rehabilitation of a hemiplegic patient, demonstrating the work of physical, occupational, recreational, and speech therapists and their contribution to the recovery of the patient.

Living with Limitations *(20 min., sd., b&w, 16 mm., $35.25, VA)* Explains how three veterans suffering from arthritis, heart condition, and a trick knee, respectively, are returned to health; how VA physical, occupational, and educational therapists work cooperatively; and how the patients are helped in finding jobs suited to their physical limitations.

The Long Cane. Part 1: Indoors *(32 min., sd., b&w, 16 mm., $55.25, VA)* Covers some of the problems of veterans who lose their sight following discharge from the service. Demonstrates therapeutic methods in general, and specific techniques of foot travel, including use of a long cane, physical re-training for mobility within the hospital, and preparation for advanced therapy.

The Long Cane. Part 2: Outdoors *(32 min., sd., b&w, 16 mm., $55.25, VA)* Shows the therapy given blinded veterans in techniques of foot travel outside the hospital in uncontrolled areas, both residential and business, including uses of the long cane, sound detection, and problems related to public attitudes.

Orientation to the Use of Crutches *(5 1/2 min., sd., color, 16 mm., Order No. M-918, $19.50, NMAC)* The film shows the fitting of underarm crutches, the tripod principle and crutch walking. It shows the disadvantages of crutches too short, or crutches too long. It shows how to use crutches in going up and down stairs, with or without the use of railing.

Paraplegic Ambulation, Initial Parallel Bar Exercises *(8 min., sd., color, 16 mm., Order No. M-1405, $27.75, NMAC)* The ambulation of the paraplegic patient wearing bilateral long leg braces with pelvic band is preceded by exercises in the parallel bars to develop initial balance during stance and trunk movements, and initial weight shifting with accompanying anterior pelvic tilt and head position. The therapist's spotting is carefully outlined. Push-ups in the bars and jacknifing are the last of the initial parallel bar exercises taught.

The Paraplegic Patient; Putting On a Full Body Brace in a Wheelchair *(10 1/4 min., sd., color, 16 mm., Order No. M-1553, $35.75, NMAC)* Depicts the most effective method for the paraplegic patient to put on a full body brace in a wheelchair.

The Paraplegic Patient; Taking Off a Full Body Brace in Bed *(7 3/4 min., sd., color, 16 mm., Order No. M-1551, $27.75, NMAC)* Shows the method used by a paraplegic to remove a full body brace in bed.

Physical Therapy Management of the Pre-and Post-Operative Open Heart Patient *(13 3/4 min., sd., color, 16 mm., Order No. M-1332, $48.50, NMAC)* Shows breathing exercises given patient prior to heart operation and follow-up treatment continued by the therapist with the patient following the operation.

Prescription O. T. *(22 min., sd., b&w, 16 mm., $38.50, VA)* Orients resident physicians to occupational therapy, giving the prescription and explaining how occupational therapy carries out the prescription.

The Quadruparetic Patient; Changing Position and Sitting Up in Bed *(7 min., sd., color, 16 mm., Order No. M-1555, $24.50, NMAC)* Shows how the quadruparetic patient can move to one side and roll over in bed. Also shows how patient learns to sit up.

The Quadruparetic Patient; Sitting Balance in Bed *(8 3/4 min., sd., color, 16 mm., Order No. M-1554, $31.00, NMAC)* Shows how the quadruparetic patient learns to move his extremities and trunk while sitting in bed.

Respiratory Exercises for the Parkinson Patient *(5 1/2 min., sd., color, 16 mm., Order No. M-1442, $19.50, NMAC)* A demonstration of respiratory exercises designed to enhance the diaphragmatic breathing and lateral costal expansion of the Parkinson patient.

The Scar Beneath *(32 min., sd., b&w, 16 mm., Order No. M-737, $55.25, NMAC)* Vocational rehabilitation of prison inmate, with the story of the successful rehabilitation of a youthful and disfigured first offender.

Credits: Technical advisor, John W. Forrest and State and Federal Prison Officials.

The Short Way Home *(13 1/2 min., sd., color, 16 mm., Order No. M-1454-x, $47.00, NMAC)* Discusses how patients who previously might have been confined to the hospital for a long period of recuperation can be returned to their homes through the facilities provided by the Home Health Services. The combined efforts of physicians, community nurses, therapists, and technicians bring the hospital to patient and speed his recovery in familiar surroundings.

Silent World, Muffled World *(28 min., sd., color, 16 mm., Order No. OM-1279, $94.50, NMAC)* Discusses the difficulties of speech, education, and normal living for the deaf. Animation explains the physiology of the ear, the mechanics of the hearing process, and the causes of hearing impairment. Shows the progress being made in the techniques of corrective ear surgery and in the methods of education and rehabilitation of deaf persons.

Steps to Recovery: Rehabilitation of the Patient with Pulmonary Tuberculosis *(30 min., sd., b&w, 16 mm., Order No. TF 8-3057, $52.00, USA)* Depicts the medical treatment and rehabilitation of tubercular patients as viewed through the eyes of two military patients hospitalized at Fitzsimons Army Hospital, Denver. Shows one patient who does not require surgery, from the time of his admittance through the treatment during the communicable stage, and pictures the second patient who is required to undergo surgery, highlighting preoperative physical therapy and post-surgical care.

Stretching and Mobilization for the Parkinson Patient *(6 3/4 min., sd., color, 16 mm., Order No. M-1444, $24.50, NMAC)* Presents a demonstration of stretching and mobilization techniques for use with Parkinson patients. For physical therapists.

Suction Socket Artificial Limb *(24 min., sd., color, 16 mm., $81.50, VA)* Describes a recently developed unharnessed prosthesis for above-knee amputees, held on by a slight negative pressure in the closed socket and by adherence of the stump to the socket walls. Stresses the need for co-ordinated effort by the amputee, surgeon, and limb-fitter; depicts necessary gait training; and appraises the benefits of suction socket prosthesis.

Swinging into Step *(33 min., sd., b&w, 16 mm., Order No. TF 8-2083, $56.75, USA)* Shows how amputees are rehabilitated physically and psychologically for a return to normal living.

Teaching Crutch Walking *(13 min., sd., b&w, 16 mm., Order No. OE 422, $23.75, USOE)* How to teach the patient to walk in a walker; to learn the various methods of crutch walking—two-point, four-point, and swinging; to sit, rise, and climb stairs; and the safety factors involved in crutch walking.

Therapeutic Exercise: Introduction *(17 min., sd., b&w, 16 mm., Order No. PMF 5034, $30.50, USA)* An Army surgeon talks to his staff about pertinent problems in the use of therapeutic exercise—nature of the injury, stage of healing of the patient, precautions to be observed; and illustrates appropriate exercises to be used with patients with nerve, spinal cord, brain, chest, etc. injuries. For professional personnel.

Therapeutic Exercise: Orthopedics *(28 min., sd., b&w, 16 mm., Order No. PMF-5051, $48.75, USA)* Demonstrates therapeutic exercises suitable in the management of orthopedic cases.

Transfer from Bed to Wheelchair with Assistance *(7 min., sd., color, 16 mm., Order No. M-913, $24.50, NMAC)* This film shows a step-by-step procedure of how to transfer the hemiplegic patient from a low bed to a sitting position; then to a standing position; and then completing the transfer to a wheelchair with the assistance of an attendant during the different steps.

Upper Extremity Prosthetics *(23 min., sd., color, 16 mm., $78.25, VA)* Explains the prescription, fabrication, fitting, and harnessing of artificial arms; shows preprosthetic and prosthetic training activities; describes various devices and appliances; and discusses some of the adjustments related to the acceptance and use of artificial arms.

A Way out of the Wilderness *(29 min., sd., b&w, 16 mm., Order No. M-1711-X, $50.25, NMAC)* Depicts care of retarded children at the Plymouth State Home & Training Center, which is designed to look like a home rather than an institution and has as its goal preparing the children for return to the outside world. Shows several children, some motor handicapped, some blind, and what is being done to help them find "a way out of the wilderness."

RESPIRATORY SYSTEM

Chronic Bronchitis and Pulmonary Emphysema. The Application of Physical Medicine and Rehabilitation: Part I *(29 min., sd., color, 16 mm., Order No. M-821, $97.75, NMAC)* Reviews the physiology and pathology of chronic bronchitis and pulmonary emphysema. Describes and demonstrates equipment and diagnostic techniques used in the management of the patient.

Credits: Technical Supervision, Albert Haas, M.D.; Consulting Physiologist, Edward H. Bergofsky, M.D.

Chronic Bronchitis and Pulmonary Emphysema. The Application of Physical Medicine and Rehabilitation: Part II *(24 min., sd., color, 16 mm., Order No. M-822, $81.50, NMAC)* Gives results from a study concerning treatment and rehabilitation of patients with chronic bronchitis and emphysema. Discusses postural drainage, breathing exercises, and usual clinical methods which can increase patient's tolerance to daily activities and permit him to return to vocational pursuits.

Mechanisms of the Intrinsic Muscles of the Larynx *(25 min., sd., color, 16 mm., Order No. M-899, $84.75, NMAC)* Demonstrates the cartilaginous and musculature anatomy of the human larynx. Demonstrates the functions of the muscles during speech, breathing, etc.

STROKE

Ready for Edna *(29 min., sd., b&w, 16 mm., Order No. MIS-962, $50.25, NMAC)* Examines the broad range of health services needed to protect and promote the physical and mental health of the aged through the experiences of Edna, who suffers a small stroke. Historical background is included to give added perspective.

SURGERY

Abdominal Aortic Aneurysm Replacement with Nylon Graft *(12 min., sd., color, 16 mm., $42.00, VA)* Demonstrates a technique for the resection of an aortic abdominal aneurysm with replacement by a chemically treated, bifurcated prosthesis. Emphasis is placed on the suturing technique, which is illustrated by diagrams.

Closure of Antral-Oral Fistula *(16 min., sd., color, 16 mm., Order No. PMF 5335, $55.00, USA)* Describes the surgical principles and procedures related to closure of antral-oral fistula and presents the technique of the "buckle-envelope type of flap." Salient principles of surgery stress elimination of infection from maxillary sinus, adequate soft tissue flaps, and suture flaps without tension.

Combined Resection of Tongue and Floor of Mouth with Radical Neck Dissection *(34 min., sd., color, 16 mm., $114.25, VA)* Demonstrates a technique of radical surgical extirpation for primary intro-oral cancer, incorporating the concepts of removal of the pathways of lymphatic metastases in continuity. Shows radical neck dissection, resection of the mandible, and a method of primary reconstruction of the mouth and jaw.

Cricothyroidotomy *(11 min., sd., color, 16 mm., Order No. MN 7469, $37.25, USN)* Shows by live action and animation the procedure for temporary relief of an obstruction in the air passage of a wounded man by the performance of a cricothyroidotomy.

Debridement. Part 1: Multiple Soft Tissue Wounds *(12 min., sd., color, 16 mm., Order No. PMF 5304, $42.00, USA)* Demonstrates the principles and techniques followed in achieving adequate debridement of war wounds, including adequate skin incision; minimal skin incision; incision of the fascia; excision of all devitalized tissue considering color changes, lack of contractility, change of consistency, and absence of bleeding when cut; excisions made over the long axis of the extremity; complete hemostasis; loose primary closure of deep structures; and placing dressings on the wounds.

Debridement. Part 2: Wounds of the Extremities *(33 min., sd., color, 16 mm., Order No. PMF 5305, $110.75, USA)* Describes the techniques used in effective debridement of soft tissue wounds and demonstrates through eight different wound cases at a hospital in Korea the methods used in cleaning wounds and removing devitalized tissue and other foci of infection.

Enzyme-Assisted Cataract Surgery *(10 min., sd., color, 16 mm., Order No. PMF 5342, $34.00, USA)* A clinical progress report of the Opthalmology Service, WRAMC, on the use of the enzyme

Alpholcymotrypsin (ACT), in cataract surgery. Discusses properties of the enzyme and its effect on catgut suture. Presents a surgical demonstration to illustrate the use of the enzyme in cataract surgery.

Fiberscope Endoscopy of the Upper Digestive Tract *(14 min., sd., color, 16 mm., Order No. 1164, $48.50, NMAC)* Film shows how the fiberscope is used in an endoscopic examination of the stomach and duodenal cap and explains and demonstrates the principles of fiber optics.

Guillotine Amputation of the Lower Extremity *(12 min., sd., color, 16 mm., Order No. MN 3429-a, $42.00, USN)* Studies two basic indications for amputations (irreparable interference with blood supply and massive infection which cannot be controlled) and stresses selection of proper site of election before amputation. For medical personnel.

Head Injury, Report of a Battle Casualty *(11 min., sd., color, 16 mm., Order No. MN 3726-h, $37.25, USN)* Presents a cranial operation and demonstrates surgical and medical techniques involved. For medical personnel.

Immediate Post Surgical Prosthetics *(43 min., sd., color, 16 mm., $143.50, VA)* This film outlines the principles employed in the management of amputees in which the prosthesis is applied to the amputation stump immediately following wound closure. The details of surgery, post-operative treatment and training are presented. A detailed case history of one below-knee amputee is shown and other types of cases are summarized briefly.

Neurosurgery: Facial Neuralgia *(12 min., sd., color, 16 mm., Order No. MN 2230-e, $42.00, USN)* Demonstrates the surgical treatment of trigeminal and glossopharyngeal neuralgia. For medical personnel.

Neurosurgery—Surgical Management of Spinal Cord Injuries *(11 min., sd., color, 16 mm., Order No. MN 2230B, $37.25, USN)* Surgery, orthopedics, bladder re-section, physiotherapy and exercise.

Open Fractures *(24 min., sd., color, 16 mm., $81.50, VA)* Discusses in detail various methods of reducing fractures and emphasizes the importance of preventing infection and additional damage to soft tissues during fracture management. The importance of restoring blood loss, alleviating pain, and treating for shock is demonstrated. The economic and emotional well-being of the patient is considered in relation to the severe medical problems posed by these fractures.

Peripheral Nerve Surgery, Part 1: Sciatic Nerve *(33 min., sd., color, 16 mm., Order No. PMF 5061, $110.75, USA)* Shows the management of a typical peripheral nerve injury case of the World War II period, including pre-operative, surgical, post-operative, and follow-up care.

Plastic and Reconstruction Surgery of the Hand *(34 min., sd., color, 16 mm., Order No. MN 6128-b, $114.25, USN)* Illustrative cases showing early traumatic wounds of the hands, methods of elective surgery of the hands, and late reconstructive hand surgery. For medical personnel.

Plastic Repair of a Cheek and Lip *(10 min., sd., color, 16 mm., Order No. MN 6485, $34.00, USN)* Shows how to graft a skin flap from the forehead over a disfiguring scar on the cheek; and a flap from the neck to form an upper lip. For medical personnel.

Plastic Surgery of the Hand *(12 min., sd., color, 16 mm., Order No. MN 6128-a, $42.00, USN)* Illustrates techniques of plastic surgery of the hand by the application of live skin grafts. Shows cases involving amputation, tendon laceration, and bone injury. For medical personnel.

Principles of Fracture Reduction *(31 min., sd., color, 16 mm., $104.75, VA)* Shows by animation the anatomy in various fractures of the long bones, and demonstrates methods of reduction on individual fractures by traction, counter-traction, and suspension. Emphasizes that the principles of fracture reduction can be applied in any farm house with the materials at hand.

Renal Vascular Hypertension: An Approach to Diagnosis and Treatment *(20 min., sd., color, 16 mm., Order No. AM-1376, $68.25, NMAC)* Demonstrates the pathogenesis of renal vascular hypertension and the types of lesions responsible. Shows how a diagnosis is made utilizing information obtained from the medical history, physical examination, intravenous pyelogram, renogram and renal scan, aortogram, Howard Test and pyelogram urea washout test. Operative procedure and patient follow-up are also shown.

Replacement of Abdominal Aorta with Homotransplant *(28 min., sd., color, 16 mm., $94.50, VA)* Illustrates the operative technique of resection of the terminal aorta with its bifurcation, and replacement with homogenous aortic transplant, in cases of aneurysm of abdominal aorta and for occlusive disease of the terminal aorta and the iliac arteries.

Revision and Reamputation of the Lower Extremity *(29 min., sd., color, 16 mm., Order No. MN 3429-b, $97.75, USN)* Demonstrates a Syne amputation; lower leg reamputation at the site of fracture; Strokes-Gritti amputation; and a revision and a secondary closure. For medical personnel.

Rigid Medullary Fixation of Forearm Fractures *(16 min., sd., color, 16 mm., Order No. PMF 5340, $55.00, USA)* Describes the principles, technique, and advantage of rigid medullary fixation of forearm fractures. Uses animation to explain basic concepts on which the technique is based, demonstrates the surgical procedure on a patient with forearm fractures of the radius and ulna bones, and describes a post surgical program to develop the functional use of the extremity.

Sciatic Pain and the Intervertebral Disk *(33 min., sd., color, 16 mm., Order No. MN-1966, $110.75, USN)* Explains symptoms and treatment of functional and organic rupturing of the spine in the lower lumbar region, especially at the intervertebral disk. For medical personnel.

Simple Method for Tracheal Suction and Bronchoscopy *(11 min., sd., color, 16mm., Order No. PMF 5341, $37.25, USA)* Describes the clinical requirement and prescribed method for performing safe and effective tracheal suction and bronchoscopy on patients who have undergone pulmonary surgery. Shows the technique used without anesthesia, highlighting insertion of catheter in patients area, and the removal of retained secretions. Demonstrates the technique employing anesthesia, giving attention to proper choice and injection of anesthesia, and application of catheter and bronchoscope.

Skeletal Fixation by the Stader Splint, Fractures of the OS Calcis *(12 min., sd., b&w, 16 mm., Order No. MN 1724-b, $22.25, USN)* Explains how to disimpact fragments, restore the tuber joint angle, correct pronation, widening and immobilizing. Shows application of the Stader splint, operation, post-operative X-rays, and care. For medical personnel.

Skeletal Fixation by the Stader Splint, Fractures of the Tibia *(22 min., sd., b&w, 16 mm., Order No. MN 1724-a, $38.50, USN)* Demonstrates features of a Stader splint and its utilization for a fractured tibia. Shows use of special right angle splint for a proximal or distal fracture in which smaller fragment is incapable of holding regular pin bar. For medical personnel.

Soft Tissue Wounds *(11 min., sd., color, 16 mm., Order No. MN 3726-d, $37.25, USN)* How to remove shell fragments from four typical battle wounds: upper thigh, scapula, leg, and arm wounds. For medical personnel.

Surgical Approaches to the Ankle Joint *(32 min., sd., color, 16 mm., $107.50, VA)* Explains by animated diagrams the anatomy of the dorsolateral and medial aspects of the ankle joint; shows operations employing approaches to the dorsal, lateral, medial, and posterior aspects of the joint; and recapitulates each operation in animation.

Surgical Approaches to the Bones of the Foot *(32 min., sd., color, 16 mm., $107.50, VA)* Explains by animated diagrams the dorsolateral and medical aspects of the foot; shows operations employing approaches to the dorsal, dorsolateral, and plantar aspects; and recapitulates each operation in animation.

Surgical Approaches to the Bones of the Wrist *(34 min., sd., color, 16 mm., $114.25, VA)* Explains by animated diagrams the anatomy of the volar, dorsal, and ulnar aspects of the wrist; shows operations employing approaches to the volar, radio-volar, ulnar, and dorsal aspects; and recapitulates each operation in animation.

Surgical Approaches to the Elbow Joint *(39 min., sd., color, 16 mm., $130.50, VA)* Explains by animated diagrams the anatomy of the anterior and posterior aspects of the elbow joint; shows operations employing approaches to the anterolateral, lateral, medial, and posterior aspects of the joint; and recapitulates each operation in animation.

Surgical Approaches to the Hip Joint *(36 min., sd., color, 16 mm., $120.75, VA)* Explains by animated diagrams the anatomy of the anterior and posterior aspects of the hip joint; shows operations employing approaches to the anterolateral, straight lateral, and posterolateral aspects of the joint; and recapitulates each operation in animation.

Surgical Approaches to the Knee Joint *(37 min., sd., color, 16 mm., $124.00, VA)* Explains by animated diagrams the anterior and posterior aspects of the knee joint; shows operations employing approaches to the anterior and posterior aspects and to the medial and lateral semilunar cartilages; and recapitulates each operation in animation.

Surgical Approaches to the Scapulohumeral Joint *(36 min., sd., color, 16 mm., $120 .75, VA)* Explains by animated diagrams the anatomy of the scapulohumeral joint; shows operations utilizing anterior, posterior, and muscle-splitting incisions; and recapitulates each operation in animation.

Surgical Approaches to the Spine and Sacroiliac *(28 min., sd., color, 16 mm., $94.50, VA)* Explains by animated diagrams the anatomy of the posterior aspect of the sacroiliac and the anterior and posterior aspects of the region of the spine with emphasis upon the lumbar area; shows operations involving the sacroiliac and the retroperitoneal space; and recapitulates each operation in animation.

Surgical Approaches to the Sternoclavicular and Acromioclavicular Joints *(17 min., sd., color, 16 mm., $58.50, VA)* Explains by animated diagrams the anatomy of the anterior aspect of the sternoclavicular and acromioclavicular joints; shows operations approaching each joint; and recapitulates each operation in animation.

Surgical Excision of Oral Leukoplakia *(18 min., sd., color, 16 mm., Order No. PMF 5338, $61.75, USA)* Describes the clinical symptoms, histologic criteria, prognosis, and surgical techniques used in the management of oral leukoplakia. Demonstrates the excision of lesions from the oral cavity and tongue and explains the stripping procedure used to remove enjoined areas involved. Emphasizes that a microscopic analysis should be made of excised tissue.

Therapeutic Exercise: Thoracic Surgery *(28 min., sd., b&w, 16 mm., Order No. PMF 5056, $48.75, USA)* Covers physical examination of patients; determination of specific remedial activity; characteristic deformities; pre-operative exercises; general aspects of surgery; post-operative treatment and therapy.

Treatment of Jaw Fractures *(33 min., sd., color, 16 mm., Order No. MN 1053, $110.75, USN)* Demonstrates how to apply several kinds of jaw splints including extra-oral fixations with vulcanite attachment. For medical personnel.

Trench Foot *(11 min., sd., color, 16 mm., Order No. MN 3726-f, $37.25, USN)* Shows the clinical condition and treatment of trench foot by the U.S. Army in the Italian theater in 1945. For medical personnel.

The Upper Extremity *(15 min., sd. color, 16mm., Order No. MN 3429-c, $51.75, USN)* How to perform guillotine amputation on upper extremity. Shows specific operation of the supracondylar area of the arm; revision and reamputation of the stump; and the technique of cineplastic operation. Illustrates types of prostheses for upper extremity amputations. For medical personnel.

Upper Extremity Prosthetic Principles *(29 min., sd., color, 16 mm., $97.75, VA)* Shows examples of research efforts resulting in prosthetic principles leading to better artificial arms. Describes the functions lost at different levels of amputation, the principles involved in their prosthetic restoration, and such devices and components as an armamentarium board.

Uretero-Ileo-Urethral Anastomosis—A Bladder Substitute *(18 min., sd., color, 16 mm., $61.75, VA)* Explains that uretero-ileo-urethral anastomosis is a method of urinary diversion which may be used following total cystectomy, that this technique substitutes a segment of ileum for the normal bladder, and that to this ileum are are anastomosed both ureters and urethra, allowing both urinary continence and relatively normal voiding through the normal channel. It does not lead to upper urinary tract distention. There is, however, some reflux of both ureters, as demonstrated on cineroentgenography. Blood chemical studies remain normal.

Wounds of the Face and Jaw *(19 min., sd., color, 16 mm., Order No. MN 2715-b, $65.00, USN)* Shows a complete operation including wiring the jawbone, sewing the inside of the mouth, reworking the nose, face, and respiratory system. For medical personnel.

Wounds of the Hand *(14 min., sd., color, 16 mm., Order No. MN 2715-a, $48.50, USN)* Shows the parts and structure of the hand. Explains the desirability of primary closure of wounds in combat areas with elective surgery and plastic surgery reserved for special hospitals in the United States. For medical personnel.

VACCINE

Spot Prevention (Measles) *(14 min., sd., color, 16 mm., Order No. M-1263, $48.50, NMAC)* Humorously shows the chase and capture of the measles "germ" and his "conversion" to protective vaccine. Animated. For the purpose of promoting immunization against measles in children.

Spot Prevention (Measles) *(14 min., sd., color, 16 mm., Order No. M-1263-SP, $48.50, NMAC)* Humorously shows the chase and capture of the measles "germ" and his "conversion" to protective vaccine. Animated. For the purpose of promoting immunization against measles in children.

VETERINARY MEDICINE

Germfree Animals in Medical Research *(19 min., sd., color, 16 mm., Order No. M-430, $65.00, NMAC)* Shows the kind of equipment necessary to carry on germfree investigations. Discusses serological studies which use germfree animals inoculated with a single known species of bacterium, and which investigate the behavior of viruses in the absence of bacteria.

Safe Handling of Laboratory Animals *(14 min., sd., color, 16 mm., Order No. M-455, $48.50, NMAC)* Demonstrates techniques of handling laboratory animals by caretakers. Emphasizes methods of avoiding injury and infection, both to the caretaker and his animals: Methods for restraining monkey, lifting dogs to the laboratory bench, etc.

MISCELLANEOUS

Acne Vulgaris: Its Pathogenesis *(14 1/2 min., sd., color, 16 mm., Order No. M-1519, $50.00, NMAC)* This film is a detailed technical presentation of the many causes that act in concert to bring on acne. It attempts to explain the pathogenesis of an individual acne lesion.

Aedes Aegypti TV Spots *(sd., color, $22.75, NMAC)*
40 seconds Order No. H-1457
40 seconds Order No. H-1458
40 seconds Order No. H-1459
40 seconds Order No. H-1460
(Spots will be shipped as a set only on 400 ft. reel). Animated and line action TV spots to encourage public to eliminate standing water which might breed mosquitoes.

Airborne Transmission of Tubercle Bacilli *(6 3/4 min., sd., color, 16 mm., Order No. M-1300, $24.50, NMAC)* Shows how airborne tuberculosis infection takes place, how the pattern of transmission is verified, and how infection can be controlled.

At the Crossroads *(short version) (12 min., sd., color, 16 mm., Order No. M-1602-x, $42.00, NMAC)* Narrated by E. G. Marshall; probes the problems most U.S. communities face in making adequate health care accessible to all its citizens. The film was shot on location in 6 major cities and in a typical rural area. Taking the viewer on a tour of urgent problems currently under investigation by the Federal government and private health organizations; inadequate clinics, over-crowded hospitals, antiquated facilities and equipment, and shortages of health manpower. Shows how communities can organize to remove the barriers that keep benefits of research programs from reaching many of our communities.

At the Crossroads *(long version) (28 min., sd., color, 16 mm., Order No. M-1601-x, $94.50, NMAC)*

Ambulation Training for the Parkinson Patient *(6 1/4 min., sd., color, 16 mm., Order No. M-1445, $22.75, NMAC)* Presents a detailed explanation and demonstration of techniques for use in ambulation training for the Parkinson patient.

Basic Terminology for Rehabilitation Appliances *(5 3/4 min., sd., color, 16 mm., Order No. M-1337, $21.25, NMAC)* Defines and illustrates through micro simulation methodology the basic terminology for rehabilitation appliance. To be used in training aides and helpers with no medical background.

Cholera Today, Part II, Practical Laboratory Diagnosis *(18 min., sd., color, 16 mm., Order No. M-1478, $16.00, NMAC)* The film illustrates practical and simple laboratory techniques that prove whether one is dealing with true Cholera or not. This is performed with minimum equipment that should be available in any country.

Cholestrol-Lecithin Flocculation Test for Schistosomiasis *(8 1/4 min., sd., color, 16 mm., Order No. M-1154, $29.25, NMAC)* This film presents the techniques for preparing the cholesterol-lecithin cercarial antigen and performing the Anderson schistosoma slide flocculation test for the diagnosis of schistosomiasis. Necessary equipment and reagents are indicated and the preparation of the test antigen is shown in detail. Performance and reading of the test are shown.

Comparison of Gross Surface Appearance of Intestinal Biopsies and Their Serial Sections *(9 min., sd., color, 16 mm., Order No. M-1563-x, $31.00, NMAC)* Much emphasis has been placed upon the importance of examining the fresh biopsies either with a hand lens or a dissecting microscope. Some authors believe that such gross examination of the biopsy surface will reveal details that are not evident histologically. The fallacy of this latter opinion will be illustrated by comparison between the surface appearance of biopsies and the subsequent histologic appearance after complete serial sectioning of the same carefully oriented biopsy. It is evident from this film that only severe lesions will be revealed by surface appearance and that even these appearances are not completely reliable. The only way to know what a biopsy really shows is to orient it perfectly initially and then to section it serially in its entirety.

Detection of Enteropathogenic Escherichia Coli *(17 min., sd., color, 16 mm., Order No. M-1456, $58.50, NMAC)* Demonstrates a method of confirming the presence of E. coli in infants within one hour. Encourages hospital laboratory directors to make this procedure a routine test on infants admitted due to the danger of incurring severe outbreaks of infantile diarrhea.

Development of the Human Gastrointestinal Tract *(15 min., sd., color, 16 mm., Order No. M-1542-x, $51.75, NMAC)* An animated film showing the development of the human gastrointestinal tract in the fetal stage. Prepared by the Yale University School of Medicine.

Emmy Immunization *(5 min., sd., color, 16 mm., Order No. MIS-934, $29.25, NMAC)* Promote immunization in your area with Emmy Immunity promotional films with musical theme and full animation.

Field Recognition of Domestic Rat Signs *(7 1/2 min., sd., color, 16 mm., Order No., M-1574, $26.00, NMAC)* Explains where to look for and recognize rat signs and how inspectors in the field can identify the various species of rodents by the size and shape of their droppings.

Field Recognition of Mosquito Larvae *(6 min., color, 16 mm., Order No. M-1272, $21.25, NMAC)* A short, silent, color motion picture with 15 short sequences of Aedes aegypti and Culex larvae in motion.

Glucose Method, Auto Analyzer *(17 1/4 min., sd., color, 16 mm., Order No. M-1268, $60.00, NMAC)* Presents the ferricyanide-ferrocyanide determination for glucose as applied to the Anto-Analyzer system by Technicon, Inc., with a few additional suggestions for greater stability of performance with time.

Glucose Method: Glucose Oxidase, Part I; Procedures *(18 min., sd., color, 16 mm., Order No. M-1235, $61.75, NMAC)* Included in this film is the incorporation of semi-automated equipment for the preparation of the protein-free filtrate and the execution of the color reactions step. Several combinations of pieces of equipment applicable to the various steps in the procedure are suggested as a means of acquiring simplicity and reproducibility of results.

Glucose Method: Glucose Oxidase, Part II; Preparation of Reagents and Primary Standards *(17 1/2 min., sd., color, 16 mm., Order No. M-1237, $60.00, NMAC)* Presents a procedure for preparation of all reagents suggested to insure better quality control of the glucose oxidase method.

Glucose Method: Nelson Somogyi, Part I; Preparation of Protein-Free Filtrate *(14 1/2 min., sd., color, 16 mm., Order No. M-1231, $50.00, NMAC)* Presents the procedure for preparation of protein-free filtrate utilizing manual pipettes or various combinations of a Seligson pipette and an automatic diluting machine as a means of reducing variability in this step of the procedures.

Glucose Method: Nelson Somogyi, Part II; Color Reaction *(8 1/2 min., sd., color, 16 mm., Order No. M-1232, $29.25, NMAC)* Presents the second part of the Nelson Somogyi Method which demonstrates the technique involved in subjecting a large number of samples to the color reaction with emphasis on the use of automatic measuring devices for greater reproducibility of the method.

Glucose Method: Nelson Somogyi, Part III; Preparation of Reagents and Primary Standards *(12 1/2 min., sd., color, 16 mm., Order No. M-1233, $43.75, NMAC)* Demonstrates a technique which insures greater stability and a minimum of effort in the preparation of reagents.

Glucose Method: Ortho-Toluidine *(14 1/2 min., sd., color, 16 mm., Order No. M-1269, $50.00, NMAC)* With the use of semi-automatic measuring devices, the technique for carrying out this relatively simple and rapid procedure is demonstrated. Large numbers of samples can be handled with ease.

Introduction to Isokinetic Exercise *(12 1/2 min., sd., color, 16 mm., Order No. M-1441, $43.75, NMAC)* Filmograph which explains and illustrates the principle of isokinetic exercise.

Job Appeal *(12 1/2 min., sd., color, 16 mm., Order No. M-1442, $43.75, NMAC)* An open-end film which portrays the problem of fair employment practices. A realistic situation is dramatized to effect maximum audience involvement. A young negro man, seeking a promotion, is told by his boss that another man has been selected.

Methods for Collecting Capillary Blood for Clinical Chemistry *(7 min., sd., color, 16 mm., Order No. M-1483, $24.50, NMAC)* Demonstrates methods of collecting blood from infants and young children. Shows heel, finger, and toe stabs and collection by Rasumssen Blood Collector, capillary tubes, filter paper, and Unopette.

Occupational Therapy Evaluation of the Hemiplegic Patient *(10 1/2 min., sd., color, 16 mm., Order No. M-1108, $35.75, NMAC)* Demonstrates techniques and methods for the occupational evaluation of hemiplegic patients prior to initiating therapy.

Patterns for Health *(14 min., sd., b&w, 16 mm., $19.25, USOEO)* Film showing the establishment of early health habits for the preschool child. Shows how this early training develops patterns found in the well-adjusted adult. Covers general as well as specific health needs of the four to five year old child.

Perspective on Pesticides *(15 min., sd., color, 16 mm., Order No. M-1484, $51.75, NMAC)* A film describing the various pesticides, their benefits to mankind, the hazards associated with their use both in the home and on the farm, and the proper method of application and storage.

Physical Manifestations and Goals of Treatment for the Parkinson Patient *(5 1/2 min., sd., color, 16 mm., Order No. M-1443, $19.50, NMAC)* Therapist presents a Parkinson patient, pointing out the physical manifestations and the expected goals of treatment.

Preparation of Thick and Thin Blood Films *(5 1/2 min., sd., color, 16 mm., Order No. M-1433, $19.50, NMAC)* Demonstrates techniques of preparing blood films for detection of blood parasites. Shows examples of good and poor films.

The Quadruparetic Patient; Transfer from Bed to Wheelchair Using a Sliding Board *(6 1/2 min., sd., color, 16mm., Order No. M-1552, $22.75, NMAC)* Shows techniques used in transfer of the quadruparetic patient between bed and wheeelchair with the use of a sliding board.

Radium Decontamination *(7 1/2 min., sd., color, 16 mm., Order No. M-1240, $26.00, NMAC)* Tells the story of the decontamination of a radium-contaminated basement in a duplex frame house by the Pennsylvania Health Department and the U.S. Public Health Service during the summer of 1964 at Lansdowne, Pennsylvania.

The Removal of Biting Ticks *(3 1/2 min., sd., color, 16 mm., Order No. M-1230, $13.50, NMAC)* Shows how to remove biting ticks without leaving the mouth parts imbedded in the flesh.

Rx: Innovation *(11 1/4 min., sdl, color, 16 mm., Order No. M-1047, $40.50, NMAC)* With the telescopy possible through the use of the medium of motion pictures, population, biomedical knowledge, and curriculum content and suggests possible methods for their solution.

Rx: Innovation *(French) (12 min., sd., color, 16 mm., Order No. M-1403FR, $42.00, NMAC)* With the telescopy possible through the use of the medium of motion pictures, the film emphasizes communication problems resultant from the explosions of population, biomedical knowledge, and curriculum content and suggests possible methods for their solution.

Rx: Innovation *(Spanish) (11 1/4 min., sd., color, 16 mm., Order No. M-1351-SP, $40.50, NMAC)* With the telescopy possible through the use of the medium of motion of population, biomedical knowledge, and curriculum content and suggest possible methods for their solution.

Safety Pipetting *(4 1/2 min., sd., color, 16 mm., Order No. M-1160, $16.25, NMAC)* This film presents three commonly used instruments that are employed in the laboratory for safety pipetting. The operation of these instruments is shown in detail.

Sensory Conduction Studies—Median Nerve *(9 1/2 min., sd., color, 16 mm., Order No. M-1409, $32.50, NMAC)* Demonstrates the Antidromic and Orthodromic techniques for recording the evoked potentials from digital sensory nerves.

Staining Blood Films for Detection of Malaria Parasites *(8 min., sd., color, 16 mm., Order No. M-1432, $27.75, NMAC)* Shows steps in staining blood films with Giemsa stain to demonstrate maximum detail of blood parasites. Shows good and poor preparations and discusses errors.

Suction Biopsy of the Gastrointestinal Mucosa *(16 min., sd., color, 16 mm., Order No. M-1564-x, $55.00, NMAC)* This film shows how suction biopsy tubes are passed under fluoroscopic control. Techniques for passing the pylorus will be illustrated as well as the necessity for taking small bowel biopsies near the duodenojejunal junction. The use of the suction biopsy tube in the esophagus, stomach, and rectum will be briefly illustrated. The most important feature of the film is the detail of handling the biopsy to minimize trauma and to assure perfect orientation. If the biopsies are not handled atraumatically, and if they are not perfectly oriented, then subsequent processing of interpretable biopsies will be impossible.

Take That First Step *(28 min., sd., color, 16 mm., Order No. M-1568-x, $94.50, NMAC)* It is designed for "soft-sell" recruiting of young people in becoming teachers of handicapped children. It tells the story of a retarded boy and a college student who meet by accident; the boy spots the student dangling from a tree in which his sky-diving parachute had become entangled, and how their friendship grows and influences the student's career planning.

To Open a Door *(30 min., sd., color, 16 mm., Order No. MIS-836, $52.00, NMAC)* Documents an actual polio campaign in a large Eastern city. Shows the problem it faced of gaining the attention and response from the "submerged one-third" of the population. Records the fears, doubts, and hostilities which could have stood between the program and success, and presents the means of overcoming these.

Venezuelan Equine Encephalitis Epidemic in Colombia *(16 min., sd., color, 16 mm., Order No. M-1611 (English), $55.00; M-1611-SP (Spanish), $55.00)* Documents a study of two simultaneous outbreaks of Venezuelan Equine Encephalitis affecting both Equines and Humans in Colombia, South America.

Wheelchair Transfers for the Paraplegic *(6 1/2 min., sd., color, 16 mm., Order No. M-1410, $22.75, NMAC)* Three transfer techniques for the paraplegic patient are explained and demonstrated—frontwards, sidewards with removable armrests on the wheelchair, and sidewards without removable armrests. Spotting techniques for the therapist are demonstrated.

HUMAN RELATIONS

CAREER OPPORTUNITIES

Adventures in Inner Space *(28 min., sd., color, 16 mm., 1965, Order No. MN 9680, $94.50, USN)* The life and training of a nuclear submariner from recruitment through assignment.

The Air Force Nurse—A Report of the Profession *(20 min., sd., color, 16 mm., 1965, Order No. SFP 1241, $68.25, USAF)* Pictures the life and work of an Air Force nurse. Outlines her qualifications, duties, responsibilities, and contributions to her profession. Directs attention to career advantages in the Air Force nurse corps: Opportunity for travel, diversified professiocal training, specialization, career advancement, and interesting social life. Cleared for TV.

Aviation Mechanic *(20 min., sd., color, 16 mm., 1964, Order No. FA-315, $72.50, FAA)* Discusses the vital importance of the work performed by airline and general aviation mechanics as well as the technical training available to students. Provides an insight into the varied skills and opportunities found in civil aviation today. Cleared for TV.

Aviation Workshop *(29 min., sd., color, 16 mm., 1966, Order No. FA-605, $106.00, FAA)* A behind-the-scenes look at careers in the Federal Aviation Administration. Contains selected sequences from previously produced FAA motion pictures. These describe activities of the Air Traffic Service, Flight Standards Service, Office of Aviation Medicine, FAA Academy, Systems Research and Development Service. For use by teachers of all grades above elementary school. Cleared for TV.

Bring Me Men *(16 min., sd., color, 16 mm., 1966, Order No. SFP 1281, $55.00, USAF)* Depicts academic, military and athletic programs of U.S. Air Force Academy. Points out career opportunities for qualifed young men. Cleared for TV.

Careers in Oceanography *(28 min., sd., color, 16 mm., Order No. MN 10063, $94.50, USN)* A documentary presentation to encourage college students to plan careers in oceanography. The film presents the challenge and adventure of oceanography and its vital importance to defense and to the economy.

To Choose the Sea *(14 min., sd., color, 16 mm., 1965, $57.00, USCG)* Directed primarily at prospective Coast Guard Academy cadets, this film shows high school senior John Rodgers facing the decision of what college and what career to choose. He finally decides on the Coast Guard Academy and is shown in classrooms, labs, off-duty activities and summer cruises aboard the sailing ship Eagle and finally graduation. The film then takes him into several possible assignments: Shipboard duty, aviation, and postgraduate work.

Come Sail with Me *(271/2 min., sd., color, 16 mm., 1966, Order No. MN 10316, $93.00, USN)* The Navy's Missile Technician is followed from boot camp to billet on board a modern missile ship. Excellent color photography and launchings of Tartar, Terrier, and Talos missiles highlight this informative film.

Growth into Leadership at the United States Air Force Academy *(22 min., sd., color, 16 mm., 1965, Order No. SFP 1234, $74.75, USAF)* Describes full scope of Air Force Academy leadership training program. Shows use of conference and problem situations to develop student potential and versatility. Reviews exciting and rewarding career opportunities for academy graduates. Cleared for TV.

How About Billy Wilson? *(17 min., sd., b&w, 16 mm., 1968, Order No. FA-617, $33.25, FAA)* This motion picture, narrated by Jackie Robinson, answers vital questions about career opportunities within FAA for a young minority group student. Billy Wilson, the lone minority member of a fictitious but typical midwestern high school class, learns before the film is over that he can compete on a completely equal basis for one of the thousands of jobs in the FAA. Highlighted is the requirement that aspirants for FAA employment must secure education and training necessary to quality for professional and technically oriented positions. Cleared for TV.

Letter from an Airman *(17 min., sd., color, 16 mm., 1964, Order No. SFP 1211, $58.50, USAF)* Portrays an airman's thoughts as he writes his brother about Air Force basic training. Depicts trainee life from induction to special assignment. Cites the specialized training courses which prepare him for a rewarding career, promotion, and the opportunity to serve the Air Force with purpose and pride. Cleared for TV.

Manage Your Career: The U.S. Army Civilian Career Management Program *(30 min., sd., b&w, 16 mm., Order No. MF 11-9263, $52.00, USA)* Explains the objectives, principles, and benefits of the U.S. Army civilian career management program which is designed to provide formalized education of training, self-development activites, and appropriate experience.

MD-USN *(43 min., sd., b&w, 16 mm., Order No. MN 8406, $73.25, USN)* A view of the career of a medical officer, from his introduction to the service, through the years of internship, residency and surgical service, with a projection into his possible future. Tells his story, including much about his family life, the variety of his duty assignments, and his feelings about being a doctor in the U.S. Navy.

Medical Officer Aboard Ship *(19 min., sd., b&w, i6 mm., Order No. MN 8265, $33.75, USN)* Surveys the duties of the medical officer as a clinician, department head, expert on combat medical matters, teacher, and preventive medicine officer, and illustrates these responsibilities by portraying the life of a medical officer aboard a cruiser.

The Navy Dental Corps *(27 min., sd., color, 16 mm., Order No. MN 8567, $91.25, USN)* A description of life in the Navy Dental Corps, presented as a portrayal of the first few years in the career of a dental officer, with emphasis on the variety of professional opportunities available. Principal sequences illustrate his clinical experience, domestic and social life, sea duty including visits to foreign ports, postgraduate work, and a projection into his possible future.

The New Approach—Aerospace Officer of the Future *(14 min., sd., color, 16 mm., 1966, Order No. SFP 1230, $48.50, USAF)* Familiarizes high school students with career opportunities awaiting those who join Air Force ROTC in college. Shows how the ROTC program develops young men physically and mentally and prepares them to become outstanding officers.

Nurses in the Army *(27 min., sd., b&w, 16 mm., Order No. MF 8-8564, $47.00, USA)* Illustrates and explains the duties and services of U.S. Army nurses.

Nursing Service in the Navy: The Chief of Nursing Service *(11 min., sd., b&w, 16 mm., Order No. MN 9225-b, $19.25, USN)* Explains the position, authority, and major responsibilities of the Chief of Nursing Service in a Naval hospital; her delegation of authority, assignment of personnel, general supervision of patient care, and responsibility for the educational development of her staff and nursing instruction of hospital corpsmen.

Prepare the Man *(25 min., sd., color, 16 mm., 1962, Order No. SFP 1073, $84.75, USAF)* This film on today's modern Air Force takes a look at some of the new concepts in selective recruiting, proper placement and highly specialized training of personnel.

Ready for Sea *(29 min., sd., color, 16 mm., 1966, Order No. MN 9515, $97.75, USN)* Story of the preparation of Navy supply offices through OCS and the Naval Supply Officer School at Athens, Georgia, ending with shipboard assignments showing the application of their training.

Shine the Boot *(14 min., sd., color, 16 mm., 1956, $110.00, USCG)* Depicts recruit training, associations and other activities of a young man from time of enlistment to initial duty assignment.

Signal Soldiers *(25 min., sd., color, 16 mm., Order No. MF 11-9088, $84.75, USA)* Explains the broad scope of the Signal Corps communications mission and emphasizes its role as a combat arm and as a technical service. Reviews the areas of responsibility and the facilities of major Signal Corps installations including schools, depots, communications centers, relay stations, and research and development activities. Describes the training and job opportunities afforded Army signalmen at these installations and stresses the importance of the vital skills and services provided by the signal soldiers to the United States Army.

The Specialty Knowledge Testing Program *(29 min., sd., color, 16 mm., 1962, Order No. SFP 1142, $97.75, USAF)* Outlines principles of the Specialty Knowledge Testing Program; emphasis on the necessity of SKT tests to upgrade qualified airmen to insure the success of the Air Force classification program.

Weaponeers of the Deep *(28 min., sd., color, 16 mm., 1967, Order No. MN 10330, $94.50, USN)* To acquaint members of selected civic organizations and personnel at Navy recruit training centers with the educational and career opportunities of serving as an FBM weaponeer in the Polaris submarine fleet.

Who's Too Old *(14 min., sd., b&w, 16 mm., Order No. MN 7424, $25.50, USN)* Dramatized story of a veteran who wants to join the Naval Reserve but whose wife objects, saying that he was in the last war, that he is too old, and that they cannot afford it. He reasons with her and persuades her to change her mind.

Working for the U.S.A. *(14 min., sd., b&w, 16 mm., Order No. MF 61-8810, $25.50, USA)* Explains the nature and significance of Federal civil service employment—how positions are obtained; wage scales, opportunities for advancement, and fringe benefits. Gives particular attention to the requirements for qualified clerical, technical, and professional employees in the various departments.

The Year of 53 Weeks—USAF Supersonic Pilot Training *(37 min., sd., color, 16 mm., 1966, Order No. SFP 1384, $124.00, USAF)* Presents day-to-day experiences of an AFROTC graduate enrolled in the Air Training Command's fifty-three week supersonic pilot training program. Describes the program's academic, flying, military and physical training courses. Portray's the students' living conditions and social activites. Stresses the fact that although students are often under great tension, the final reward—the joy of flying compensates for pressures withstood in training. Cleared for TV.

Your Personal Affairs Officer *(22 min., sd., b&w, 16 mm., 1962, Order No., SFP 1092, $38.50, USAF)* Portrays the role of the personal affairs officer and points out the benefits of the personal and family service program available to military personnel and their dependents. Shows how the personal affairs officer assists servicemen and their families during illness, accident, or death; acts as counselor in insurance and retirement planning; assists in overseas transfer preparations; coordinates savings-bond campaigns; and acts as the commander's representative in briefing newly arrived personnel. Cleared for TV.

MILITARY DEPENDENTS

Air Force Family Housing *(14 min., sd., color, 16 mm., 1960, Order No. SFP 692, $48.50, USAF)* Shows what the Air Force is doing to provide comfortable, economical, and convenient housing for U.S. Air Force families in the United States.

To a Foreign Land *(20 min., sd., b&w, 16 mm., 1960, Order No. SFP 699, $35.25, USAF)* Outlines preparations necessary for the orderly, efficient, and economical movement of military and civilian personnel scheduled for overseas assignment. Depicts, through experiences of an Air Force family destined to go overseas, how to take care of details connected with shipment of house-hold goods, medical checkups, passports, forms, etc., Cleared for TV.

REHABILITATION

Employing Blind Workers in Industry *(17 min., sd., b&w, 16 mm., Order No. OE 165, $30.50, USOE)* Actual instances of blind workers performing jobs in industry; types of work which can be done by blind persons; role of employment specialists in placing and training blind workers.

Employing Disabled Workers in Industry *(20 min., sd., b&w, 16 mm., Order No. OE 399, $35.25, USOE)* Illustrative examples of disabled workers handling skilled industrial jobs—one-handed milking machine operator, one-handed machinist, one-armed electric welder, one-handed watch repairman, poliomyelitis-crippled jewelry maker, one-handed secretary.

Establishing Working Relations for the Disabled Worker *(14 min., sd., b&w, 16 mm., Order No. OE 401, $25.50, USOE)* Dramatized case study of workers being overly solicitous of a new one-handed lathe operator, of his resentment at being considered a "freak," and of the supervisor's successful handling of the situation.

Instructing the Blind Worker on the Job *(17 min., sd., b&w, 16 mm., Order No. OE 166, $30.50, USOE)* How a supervisor trains a blind worker to operate a drill press.

Instructing the Disabled Worker on the Job *(14 min., sd., b&w, 16 mm., Order No. OE 400, $25.50, USOE)* Dramatized instances of poor and good instruction of disabled workers, and how in the latter case, a one-armed worker learns successfully to operate a drill press.

To Hear Again *(37 min., sd., b&w, 16 mm., Order No. PMF 5052, $63.50, USA)* Explains and shows examples of the U.S. Army's aural rehabilitation program—testing, treatment, and social rehabilitation; and use of hearing aids and lip reading; and stories of several patients. Primarily for patient orientation.

Who's Handicapped? *(22 min., sd., b&w, 16 mm., Order No. SFP 397, $38.50, USAF)* Chief of Staff Nathan F. Twining introduces this film concerning the thousands of physically handicapped employees whose skills contribute daily to Air Force progress. Explains procedures for placing these persons in jobs.

SOCIAL SECURITY

Before the Day *(11 min., sd., b&w, 16 mm., $19.25, SSA)* A black and white film which gives an account of the founding and growth of the old age and disability programs under social security.

The Long Haul *(14 min., sd., color, 16 mm., $48.50, SSA)* A color film about a fisherman's efforts to provide for his family after a crippling accident. It explains the social security disability insurance protection.

Medicare *(10 min., sd., color, 16 mm., $34.00, SSA)* A color film animated in filmograph style, using words and symbols to explain the health insurance program.

Sam'l and Social Security *(5 min., sd., color, 16 mm., $18.00, SSA)* An animated color film, explains what Sam'l needs to know and do about his social security.

The Social Security Story *(14 min., sd., color, 16 mm., $48.50, SSA)* A color, live action film giving essential program information and facts about account numbers, how records are kept, etc.

You and Medicare *(27 1/2 min., sd., color, 16 mm., $93.00, SSA)* A color film about the health insurance program under social security narrated by E. G. Marshall.

SOCIAL WORKER

The Allen Case *((5) 5 min., sd., b&w, 16 mm., $43.75, also available (5) 15 min., sd., b&w, 16 mm., $135.00, SRS)* Five (5) minute films show a mother receiving aid for dependent children. The film shows how Mrs. Allen is helped to cope with her problem and how social workers can increase their skill in treatment oriented interviewing. The film is useful in teaching crisis intervention concepts.

The Later Years of the Woodley's *(30 min., sd., b&w, 16 mm., $52.00, SRS)* This film illustrates the relationship between the aging process and ill health and shows how the social worker can be indispensable to appropiate medical care. This is useful in training service workers in the field of aging. In addition, the film depicts the supervisory process and group supervision.

SUPERVISION

Developing Cooperation *(14 min., sd., b&w, 16 mm., Order No. MN 3425-c, $25.50, USN)* Discusses the importance of co-operation of workers on any job; and uses examples in industry to illustrate good and poor methods of developing co-operation.

Discipline: Giving Orders *(15 min., sd., b&w, 16 mm., Order No. MN 2088-a, $27.00, USN)* Explains how to give clear orders and maintain office discipline; and contrasts the results of gaining workers' confidence with those of instilling fear in employees.

Discipline: Reprimanding *(10 min., sd., b&w, 16 mm., Order No. MN 2088-b, $17.50, USN)* Shows examples of proper and improper reprimanding of employees by supervisors and how the efficiency and production of an office can be increased or decreased depending upon how a situation is handled.

Every Minute Counts *(10 min., sd., b&w, 16 mm., Order No. OE 161, $17.50, USOE)* Problems of a new supervisor in handling lateness, loafing, and absenteeism; and how he learns to deal with individual cases.

First Impressions *(21 min., sd., b&w, 16 mm., Order No. MN 1374, $37.00, USN)* Emphasizes the importance of first impressions, and demonstrates step-by-step a technique of introducing a new employee to the job.

If I Were You *(44 min., sd., b&w, 16 mm., Order No. TF 1-5209, $74.75, USAF)* Demonstrates basic human relationships through a series of typical situations encountered by an Air Force officer, and illustrates through individual stories the successful application of the role-playing method to real life problems.

Improving the Job *(9 min., sd., b&w, 16 mm., Order No. OE 163, $15.75, USOE)* A supervisor asks an employee for work-improvement suggestions; the employee talks the problem over with his father and sister, obtains their advice, and makes some worthwhile suggestions.

Interviewing Principles and Techniques *(17 min., sd., b&w, 16 mm., Order No. MN 7360, $30.50, USN)* Demonstrates a classification interview, illustrating principles of good interviewing, including: preparation, approach, getting the facts, use of simple terminology, guiding the conversation, and preventing interruptions.

Instructing the Worker on the Job *(14 min., sd., b&w, 16 mm., Order No. OE 155, $25.50, USOE)* Dramatization of how not to instruct a new worker and the results of poor on-the-job instruction; in contrast, how such instruction should be done.

Introducing the New Worker to His Job *(16 min., sd., b&w, 16 mm., Order No. OE 154 $28.50, USOE)* Dramatization of how not to orient a new employee and get him started on his job; then by contrast, what should have been done.

Maintaining Good Working Conditions *(9 min., sd., b&w, 16 mm., Order No. OE 152, $15.75, USOE)* Two supervisors describe specific ways, dramatically re-enacted, which they used in improving working conditions.

Maintaining Quality Standards *(10 min., sd., b&w, 16 mm., Order No. OE 164, $17.50, USOE)* A supervisor learns that quality as well as quantity production is necessary, and how such quality standards can be achieved and maintained.

Maintaining Workers' Interest *(13 min. sd., b&w, 16 mm., Order No. OE 159, $23.75, USOE)* Dramatized instances of employees doing poor work because their jobs do not interest them, and what the supervisor should do to detect and remedy such situations.

A New Supervisor Takes a Look at His Job *(13 min., sd., b&w, 16 mm., Order No. OE 150, $23.75, USOE)* A machine tool operator is made a group leader and his plant superintendent explains to him, through dramatized illustrations, the meaning of working with people instead of machines.

Placing the Right Man on the Job *(13 min., sd., b&w, 16 mm., Order No. OE 156, $23.75, USOE)* Dramatized cases of five different workers, unsatisfactory in particular jobs, who are reassigned to other jobs more suitable to their abilities and capacities.

Planning and Laying Out Work *(10 min., sd., b&w, 16 mm., Order No. OE 151, $17.50, USOE)* A plant supervisor talks to his son, who has built a boat in the basement too large to go through the door, about the necessity for planning a job in advance; and recounts several illustrative experiences at the plant.

Public Works and Public Utilities. Part IV: Work Improvement in Maintenance *(18 min., sd., b&w, 16 mm., Order No. MN 8131-d, $32.00, USN)* Portrays an introduction to the work improvement handbooks, forms, and procedures used and how they can help the supervisor.

Supervising Workers on the Job *(10 min., sd., b&w, 16 mm., Order No. OE 157, $17.50, USOE)* Dramatized incidents illustrating good and poor methods of supervision, including the necessity for obtaining the confidence of workers and the dangers of "snoopervising."

Supervising Women Workers *(11 min., sd., b&w, 16 mm., Order No. OE 158, $19.25 USOE)* A plant manager advises a foreman to remember that women workers haven't the same industrial experience as men and very often have more home responsibilities; and to take these facts into account in his supervision.

The Supervisor as a Leader. Part I *(14 min., sd., b&w, 16 mm., Order No. OE 168, $25.50, USOE)* Four dramatized episodes illustrating poor supervisory practices and the importance of the following rules: Always keep promises. Never take credit for someone else's work. Don't pass the buck. Don't play favorites.

The Supervisor as a Leader. Part II *(13 min., sd., b&w, 16 mm., Order No. OE 169, $23.75, USOE)* Four more dramatized instances of poor supervision leading to the following generalizations: Be a leader not an authoritarian. Show appreciation for a job well done. Do not become angry. Protect the rights and feelings of workers.

Working with Other Supervisors *(8 min., sd., b&w, 16 mm., Order No. OE 153, $14.25, USOE)* Shows how a supervisor fails because he does not recognize the importance of working harmoniously with other people, particularly with his fellow supervisors.

VOCATIONAL GUIDANCE

The Chaplain and the Commander *(29 min., sd., b&w, 16 mm., 1962, Order No. TF 16-3202, $50.25, USA)* Explains role of Chaplain in the military service and shows how he assists the commander in the fulfillment of the military objective.

The Empty Lot *(27 min., sd., b&w, 16 mm., $47.00; Empty Lot Featurette—5 min., sd., b&w, 16 mm., $7.75; Television Spot No. 1--1 min., sd., b&w, 16 mm., $1.75; and Television Spot No. 2—1 min., sd., b&w, 16 mm., $1.75, USOE)* Portrays in three dramatic episodes some of the economic and social problems facing students, parents, educators, and other citizens and the role played by modern vocational education in meeting them. Suitable for television showing.

Mister! Meet the Future *(25 min., sd., b&w, 16 mm., Order No. TF 1-5267, $43.75, USAF)* Presents a pictorial overview of the Air Force ROTC summer training program.

Performance Counseling *(21 min., sd., b&w, 16 mm., 1963, Order No. TF 20-3291, $37.00, USA)* Aimed at senior officers; valuable in helpful guidelines for effective performance and non-directive methods of counseling.

Where the Action Is *(27 min., sd., color, 16 mm., $91.25, USOE)* Depicts work in today's complex technological world and shows how vocational and technical education can prepare young people through proper training, particularly at the post secondary level, for their place in the world of work. Focuses on the problems of approximately 80 per-cent of the young people who do not complete college in terms of jobs, training for these jobs, and their future. Suggested audiences are: youth, parents, community groups, general public, teachers and guidance counselors.

MACHINING

BROACHING MACHINE

Broaching an Internal Keyway *(23 min., sd., b&w, 16 mm., Order No. OE 236, $40.50, USOE)* Principles of internal broaching and of broaching tool design; how to select the broaching tool for the job, and set up and operate the horizontal broaching machine.

Double Raw Vertical Surface Broaching *(30 min., sd., b&w, 16 mm., Order No. OE 238, $54.00, USOE)* How to assemble broaching inserts; mount and adjust the work fixtures; set trip dogs for the ram stroke; measure the workpiece after trial broaching; and surface-broach at a production rate.

Single Ram Vertical Surface Broaching *(28 min., sd., b&w, 16 mm., Order No. OE 237, $48.75, USOE)* How to install broaching inserts for straddle broaching; mount the tool-holder with its assembled broaching tool; mount and adjust the work fixture; and surface-broach at production rate.

CENTER-TYPE GRINDER

Grinding a Plain Pin, Part I: The Grinding Wheel *(17 min., sd., b&w, 16 mm., Order No. OE 80, $30.50, USOE)* Cutting action of a grinding wheel; how to select the correct grinding wheel; handle and mount the wheel on the collet; and true and balance the wheel.

Grinding a Plain Pin, Part II: Grinding Operations *(17 min., sd., b&w, 16 mm., Order No. OE 81, $30.50, USOE)* How to lubricate and set up a center-type grinder; mount and adjust the workpiece for proper tension between centers; set the table reversing dogs; and rough-grind a plain pin.

Grinding a Slender Shaft with Back Rest *(17 min., sd., b&w, 16 mm., Order No. OE 82, $30.50, USOE)* How to select and set up a back rest; adjust the back rest during grinding; rough- and finish-grind the long shaft; and check and adjust for taper.

Grinding a Taper *(19 min., sd., b&w, 16 mm., Order No. OE 84, $33.75, USOE)* How to prepare an arbor for grinding; mount and adjust the arbor between centers; adjust the swivel table and taper scale; rough- and finish-grind the taper; and check with the taper ring gage and light gage.

Plunge Cut Grinding *(15 min., sd., b&w, 16 mm., Order No. OE 83, $27.00, USOE)* How to mount a bushing on a mandrel; dress the side of the grinding wheel; set a dial snap gage for the production grinding of bushings; rough- and finish-grind a bushing; and the importance of rhythm in production grinding.

CENTERLESS GRINDING MACHINE

Endfeed Grinding a Tapered Pin *(26 min., sd., b&w, 16 mm., Order No. OE 89, $45.50, USOE)* Principles of endfeed grinding; how to true the regulating and grinding wheels; rough- and finish-endfeed grind; use a taper collet gage and Prussian blue to check work; redress the wheels for the finish grind; and correct taper error of less than .0005.

Infeed Grinding a Shaft of Two Diameters *(31 min., sd., b&w, 16 mm., Order No. OE 88, $53.50, USOE)* How to profile-grind shafts by the infeed method; use cams in profiling the regulating wheel and grinding wheel; install cams; profile the wheels; set up the centerless grinding machine for the job; and rough- and finish-profile grind.

Infeed Grinding Shouldered Work *(23 min., sd., b&w, 16 mm., Order No. OE 87, $40.50, USOE)* Principle of infeed grinding; how to use an automatic ejector; tilt the regulating wheel; adjust the end-stop; position the work for grinding; correct work ground out of round; and check work with V block, indicator, and micrometer.

Thrufeed Grinding a Straight Pin, Part I *(29 min., sd., b&w, 16 mm., Order No. OE 85, $50.25, USOE)* Principle of centerless grinding; basic elements of the centerless grinding machine; how to set up the machine and true the grinding and regulating wheels.

Thrufeed Grinding a Straight Pin, Part II *(28 min., sd., b&w, 16 mm., Order No. OE 86, $48.75, USOE)* How to balance the grinding wheel; position the work for grinding; adjust the work guides; take a trial grind; eliminate taper in the grinding wheel; use a crown cam to dress the grinding wheel; and check the workpieces.

CUTTER GRINDER

Sharpening a Form Relieved Cutter *(18 min., sd., b&w, 16 mm., Order No. OE 93, $32.0¢, USOE)* What constitutes the rake angle and the clearance angle of the form relieved cutter; how to mount the correct attachment; set up for spotting the back of the teeth; and grind the face of the teeth.

Sharpening a Plain Helical Milling Cutter *(16 min., sd., b&w, 16 mm., Order No. OE 91, $28.50, USOE)* How to mount the helical cutter on an arbor; sharpen the secondary clearance angle; and check and adjust for taper when grinding the primary clearance angle.

Sharpening a Shell End Mill *(17 min., sd., b&w, 16 mm., Order No. OE 92, $30.50, USOE)* How to select the correct arbor; mount the work head; adjust the work head for clearance settings; and set up for sharpening the outside diameter, corner, and face.

Sharpening a Side Milling Cutter *(23 min., sd., b&w, 16 mm., Order No. OE 90, $40.50, USOE)* How to identify the parts of a cutter; select and mount the correct grinding wheel; mount the cutter; set up the grinder for sharpening; set the correct clearance angle; and check for width of land.

Sharpening an Angular Cutter *(15 min., sd., b&w, 16 mm., Order No. OE 94, $27.00, USOE)* How to choose the correct grinding wheel; adjust the swivel table for grinding the angular teeth of the cutter; adjust for clearance angle; and check the teeth for accuracy of the angle.

DRILL PRESS

The Drill Press *(10 min., sd., b&w, 16 mm., Order No. OE 71, $17.50, USOE)* Functions, characteristics, and basic operations of the drill press.

Countersinking, Counterboring, and Spotfacing *(20 min., sd., b&w, 16 mm., Order No. OE 48, $35.25, USOE)* How to drill holes in steel and cast iron; countersink holes in steel; counterbore holes in cast iron, and spotface holes in cast iron.

Drilling a Hole in a Pin *(10 min., sd., b&w, 16 mm., Order No. OE 46, $17.50, USOE)* How to lay out two holes at each end of a short 1 1/4 inch diameter pin; and drill the holes using the sensitive drill press.

Drilling and Tapping Cast Steel *(19 min., sd., b&w, 16 mm., Order No. OE 22, $33.75, USOE)* How to drill and tap blind holes in cast steel on a radial drill, using a jig with a loose drill bushing to locate the holes.

Drilling in Metal, Wood, and Plastics *(23 min., sd., b&w, 16 mm., Order No. MN 142, $40.50, USN)* Points out the six basic steps in drilling, and demonstrates how to lay out wood and plastics with drill press, electric drill, and hand drill.

Drilling to a Layout and Spotfacing Cast Iron *(15 min., sd., b&w, 16 mm., Order No. OE 23, $27.00, USOE)* How to set up a job on the table of a radial drill press; drill holes to a layout; and spotface the holes.

Locating Holes, Drilling and Tapping in Cast Iron *(18 min., sd., b&w, 16 mm., Order No. OE 47, $32.00, USOE)* How to lay out a bolt circle having eight holes; use the center punch as centers for drilling; and use a tapping chuck in tapping two of the holes for set screws.

ENGINE LATHE

Boring To Close Tolerances *(17 min., sd., b&w, 16 mm., Order No. OE 59, $30.50, USOE)* How to mount and adjust the brass valve bonnet in a ring fixture; rough- and finish-face the hub; rough- and finish-bore the hole to close tolerances; prevent bellmouth when boring a hole.

Cutting an External Acme Thread *(16 min., sd., b&w, 16 mm., Order No. OE 45, $28.50, USOE)* How to cut threads with and without using the threading dial; finish-machine the threads to size; and check thread size with a thread gage.

Cutting an External National Fine Thread *(12 min., sd., b&w, 16 mm., Order No. OE 10, $22.25, USOE)* Basic forms of screw threads; characteristics of the National fine thread; how to set lathe gears to cut threads of a given pitch; set depths of cuts; and use the threading dial.

Cutting an Internal Acme Thread *(22 min., sd., b&w, 16 mm., Order No. OE 56, $38.50, USOE)* How to set up the lathe and cut an internal right-hand Acme thread; grind and check the stocking and forming tools; and gage the finished threads.

Cutting an Internal Taper Pipe Thread *(20 min., sd., b&w, 16 mm., Order No. OE 57, $35.25, USOE)* How to use a taper attachment; bore a tapered hole to gage size for threading; thread a tapered hole to fit a gage; and check pipe threads with a taper thread plug gage.

Cutting a Taper with the Compound Rest and with a Taper Attachment *(11 min., sd., b&w, 16 mm., Order No. OE 8, $19.25, USOE)* How to set the compound rest; machine a steep taper; set the taper attachment; machine a small taper; and use a taper plug gage.

Drilling, Boring, and Reaming Work Held in Chuck *(11 min., sd., b&w, 16 mm., Order No. OE 9, $19.25, USOE)* How to drill a workpiece held in lathe chuck; bore a tapered hole with the taper-turning attachment; check the accuracy of the hole; and ream a tapered hole to finish size.

The Lathe *(15 min., sd., b&w, 16 mm., Order No. OE 68, $27.00, USOE)* Functions, characteristics, and basic operations of the engine lathe.

Machining Work Held in Chuck: Use of Reference Surfaces *(24 min., sd., b&w, 16 mm., Order No. OE 60, $42.25, USOE)* How to select and machine surfaces to be used for reference; set up a workpiece accurately to the reference surfaces in a lathe chuck; and use a boring bar to machine several internal surfaces.

Rough Turning Between Centers *(15 min., sd., b&w, 16 mm., Order No. OE 6, $27.00, USOE)* How to set up an engine lathe; operate the controls; grind clearances on cutting tools; and rough-turn round bar stock to a specified diameter.

Turning a Taper with the Tailstock Set Over *(17 min., sd., b&w, 16 mm., Order No. OE 44, $30.50, USOE)* How to calculate tailstock offset for cutting tapers; offset the tailstock; and turn a taper with the tailstock set over.

Turning Work Held on a Fixture *(21 min., sd., b&w, 16 mm., Order No. OE 58, $37.00, USOE)* How to mount an irregularly shaped casting which cannot be held in a chuck; mount and center the fixture on a lathe, select and mount the tools; and turn, face, bore, counterbore, and ream the surfaces of a valve bonnet.

Turning Work Held on a Mandrel *(20 min., sd., b&w, 16 mm., Order No. OE 61, $35.25, USOE)* Description and uses of a mandrel; how to fit the mandrel into the workpiece; cut a bevel, using the compound rest; calculate speed and feed; and set the controls.

Turning Work of Two Diameters *(14 min., sd., b&w, 16 mm., Order No. OE 7, $25.50, USOE)* How to use roughing, finishing, facing, and radius tools; rough-turn and finish-turn a workpiece having two diameters; face a workpiece; and machine fillets.

Using a Boring Bar Between Centers: Work Held on Carriage *(22 min., sd., b&w, 16 mm., Order No. OE 64, $38.50, USOE)* How to set up a boring bar between centers of a lathe; clamp an irregular workpiece on a lathe carriage; mount, adjust, and use a boring bar between centers of the lathe; and align the workpiece center with the lathe centerline.

Using a Follower Rest *(21 min., sd., b&w, 16 mm., Order No. OE 63, $37.00, USOE)* Description and uses of the follower rest; how to mount the follower rest on the lathe; adjust the jaws of the follower rest to the work; and lubricate the work to prevent damage to the jaws and workpiece.

Using a Steady Rest *(25 min., sd., b&w, 16 mm., Order No. OE 62, $43.75, USOE)* Description and uses of the steady rest; how to spot the work for the location of the steady rest; mount the steady rest on the lathe; and adjust the jaws of the rest to the work.

Using a Steady Rest When Boring *(21 min., sd., b&w, 16 mm., Order No. OE 65, $37.00, USOE)* How to mount a long casting on a lathe faceplate; turn a true bearing spot for supporting the workpiece with a steady rest; and how boring, turning, and forming operations are performed when work is supported by a ready rest.

GEAR HOBBING MACHINE

Hobbing a Helical Gear: Two Cuts, Nondifferential Method *(17 min., sd., b&w, 16 mm., Order No. OE 235, $30.50, USOE)* How to set up the change gears; adjust the swivel head to cut on the helix angle; set up the machine for the rough cut; and re-align hob and gear teeth.

Hobbing a Spur Gear. Part I: Setting Up the Change Gears *(15 min., sd., b&w, 16 mm., Order No. OE 231, $27.00, USOE)* Selection of the hob; how to select change-gear combinations for speed, feed, and index; identify the correct gears; mount the change gears; adjust for backlash; and how the change-gear trains are interrelated.

Hobbing a Spur Gear. Part II: Setting Up and Hobbing the Work *(24 min., sd., b&w, 16 mm., Order No. OE 232, $42.25, USOE)* How to select and mount the hob; set the swivel head angle; choose and mount the fixture; load the gear blanks; set up for depth of trial cut; and adjust for full depth of cut.

Hobbing a Square Tooth Spline Shaft *(17 min., sd., b&w, 16 mm., Order No. OE 233, $30.50, USOE)* How to change hob arbors; centralize the hob with the centering gage; mount the center-type fixture and the top adjustable center; use a driving dog in mounting the spline shaft blank; set up for the trial cut; and take full depth of cut.

Hobbing a Worm Gear: Infeed Method *(18 min., sd., b&w, 16 mm., Order No. OE 234, $32.00, USOE)* Angle at which to set the swivel head; how to calculate and adjust the height of the hob arbor; engage horizontal feed; centralize the hob; and cut to a center distance.

HORIZONTAL BORING

Contour Face Milling *(17 min., sd., b&w, 16 mm., Order No. OE 227, $30.50, USOE)* How to set up the job; align workpiece square with spindle; make a rough-facing cut; and a finish-facing cut.

Drilling, Tapping, Sub-Boring, and Reaming *(22 min., sd., b&w, 16 mm., Order No. OE 230, $38.50, USOE)* How to drill and machine-tap a hole; use a core drill; use a stub-boring bar for rough- and finish-boring and counterboring; and use an adjustable reamer and a floating reamer.

Face Milling with a Fixture *(16 min., sd., b&w, 16 mm., Order No. OE 226, $28.50, USOE)* How to determine speed and feed; establish reference surfaces; make reference cut by end-milling a flange and by milling the face.

Rough Line-Boring *(19 min., sd., b&w, 16 mm., Order No. OE 229, $33.75, USOE)* How to install the boring bar and cutters; bore, counterbore, and spot-face holes; and re-position from one hole to another.

Setup for Face Milling with a Fixture *(20 min., sd., b&w, 16 mm., Order No. OE 225, $35.25, USOE)* How the horizontal boring, drilling, and milling machine operates; how to install the fixture; set up the workpiece; select and install an end mill and a face mill.

Setup for Rough Line-Boring *(15 min., sd., b&w, 16 mm., Order No. OE 228, $27.00, USOE)* How to position the workpiece on the table; position the spindle for horizontal centers and for vertical centers.

INTERNAL GRINDER

Grinding a Deep Hole *(18 min., sd., b&w, 16 mm., Order No. OE 78, $32.00, USOE)* How to grind the backing pins and work-holding jaws of three-jaw chuck to hold the work-piece; set length of stroke and break-through; correct for taper and bellmouth; and check a deep hole with an inside micrometer.

Grinding a Straight Hole *(18 min., sd., b&w, 16 mm., Order No. OE 77, $32.00, USOE)* How to use a universal chuck; select the proper grinding wheel and adjust the wheel speed; set the length of the stroke; set the cross-feed for automatic grinding; and use the precision cross-feed for finish grinding.

Grinding and Facing a Blind Hole *(17 min., sd., b&w, 16 mm., Order No. OE 79, $30.50, USOE)* How to mount and dress the wheels on the two-spindle grinder; prepare the diaphragm chuck; plunge-grind the bore and adjust for taper; and grind the shoulder and flange parallel and at right angles to the bore.

METAL CUTTING BAND SAW

Filing an Internal Irregular Shape *(27 min., sd., b&w, 16 mm., Order No. OE 240, $47.00, USOE)* How to make file selection; set up a metal cutting band saw machine for filing; file a die; lay out a punch using a die as a template; file a punch; check the filing of a punch with a die; and fine-finish file.

Sawing an Internal Irregular Shape *(32 min., sd., b&w, 16 mm., Order No. OE 239, $55.25, USOE)* How to drill the saw-starting hole; make the saw selection; set up a band saw machine; weld saw bands; saw an internal contour shape; and remove and store a band saw.

MILLING MACHINE

Boring Holes with Offset Boring Head *(12 min., sd., b&w, 16 mm., Order No. OE 209, $48.75, USOE)* How to mount the work-piece on the milling machine table; bore with an offset boring head; and use plug gages and a micrometer to check the center distance between the holes.

Cutting Keyways *(15 min., sd., b&w, 16 mm., Order No. OE 12, $27.00, USOE)* How to set up a shaft on the table of the milling machine for cutting a keyway at each end; select the proper cutter; determine the correct speed and feed; set the machine for the proper depth and length of cut; and mill keyways to specified dimensions.

Cutting a Short Rack *(18 min., sd., b&w, 16 mm., Order No. OE 208, $32.00, USOE)* How to set up and align the workpiece on a milling machine table; position table and workpiece in relation to the cutter; and rough- and finish-mill the workpiece.

Cutting Teeth on a Worm Gear *(17 min., sd., b&w, 16 mm., Order No. OE 211, $30.50, USOE)* How to set dividing head for specified indexing; position workpiece for gashing; gash the teeth on the workpiece; position workpiece under dead center of hob; mesh gashed gear with hob; and hob the teeth.

Milling a Helical Cutter *(18 min., sd., b&w, 16 mm., Order No. OE 210, $32.00, USOE)* How to mount arbor, cutter, and arbor support; mount workpiece between centers; set dividing head for specified number of divisions; position workpiece for first cut; and rough- and finish-mill the workpiece.

The Milling Machine *(8 min., sd., b&w, 16 mm., Order No. OE 11, $14.25, USOE)* Types of jobs which can be done on the milling machine; how to mount the cutter on the arbor; adjust the overarm bracket; and set cutter speeds and table feeds.

The Milling Machine *(15 min., sd., b&w, 16 mm., Order No. OE 69, $27.00, USOE)* Functions, characteristics, and basic operations of the milling machine.

Milling a Template *(17 min., sd., b&w, 16 mm., Order No. OE 207, $30.50, USOE)* How to mount the end mill in the milling machine spindle; position the table and workpiece in relation to the cutter; rough- and finish-mill the piece; and check for finished dimensions.

Plain Indexing and Cutting a Spur Gear *(26 min., sd., b&w, 16 mm., Order No. OE 15, $45.50, USOE)* Element of spur gear teeth; principles of the dividing head; how to set up a cutter for milling a spur gear; use of standard indexing plates; and how to mill gear teeth to a specified depth.

Straddle Milling *(17 min., b&w, 16 mm., Order No. OE 14, $30.50, USOE)* How to use an indexing fixture for production milling operations; space cutters on an arbor for straddle milling; and mill parallel bosses on connecting rods.

Straddle and Surface Milling to Close Tolerances *(27 min., sd., b&w, 16 mm., Order No. OE 13, $47.00, USOE)* How to make surface and straddle milling cutter setups; surface mill four sides of a workpiece, and machine a workpiece to a T shape by straddle-milling.

PLANER

Planing a Dovetail Slide *(28 min., sd., b&w, 16 mm., Order No. OE 67, $48.75, USOE)* How to set up the workpiece, cutting tools, and machine; make rough and finish cuts in the clearance slot; and make angle cuts.

Planing a Flat Surface *(22 min., sd., b&w, 16 mm., Order No. OE 66, $38.50, USOE)* Function of a planer; how to mount the workpiece; set the tool and table for the cut; make a first and second roughing and a first and second finishing cut.

SHAPER

Cutting a Keyway on End of a Finished Shaft *(13 min., sd., b&w, 16 mm., Order No. OE 19, $23.75, USOE)* How to lay out a keyway on a shaft; set up a round shaft in a shaper vise; set ram stroke and speed; and cut a keyway.

Machining a Cast Iron Rectangular Block *(25 min., sd., b&w, 16 mm., Order No. OE 20, $43.75, USOE)* How to set the shaper ram stroke; adjust the shaper table, vise, vertical feed, head feed, and cross-feed; and set up a rectangular cast iron block and machine all six sides to dimensions and square with each other.

Machining a Tool Steel V Block *(21 min., sd., b&w, 16 mm., Order No. OE 21, $37.00, USOE)* How to lay out work for machining on a shaper; set up and position the ram stroke; and machine V Grooves and rectangular slots.

The Shaper *(15 min., sd., b&w, 16 mm., Order No. OE 70, $27.00, USOE)* Functions, characteristics, and basic operations of the shaper.

SURFACE GRINDING

Grinding a Parallel Bar. Part I: Setting Up the Machine *(14 min., sd., b&w, 16 mm., Order No. OE 220, $25.50, USOE)* How to mount a grinding wheel; position the diamond tool and true the wheel; operate a magnetic chuck; use the controls of the grinder; and grind the face of the chuck.

Grinding a Parallel Bar. Part II: Grinding Operations *(15 min., sd., b&w, 16 mm., Order No. OE 2217, $27.00, USOE)* How to position the parallel bar on the chuck; rough-grind the opposite sides of the bar; rough-grind adjacent sides of the bar at exact right angles; and finish-grind all four sides.

Grinding a Template *(15 min., sd., b&w, 16 mm., Order No. OE 222, $27.00, USOE)* How to mount and true the wheel; mount the sine bar on the table; set the sine bar for specified angles; set up the template on the sine bar; rough- and finish-grind the template; and check the workpiece for accuracy.

Grinding a V Block *(22 min., sd., b&w, 16 mm., Order No. OE 223, $38.50, USOE)* How to set up a V block to grind the ends and the V; rough- and finish-grind the ends; establish reference points for grinding the V to precision dimensions; and check the work for accuracy.

Grinding Thin Discs *(15 min., sd., b&w, 16 mm., Order No. OE 224, $27.00, USOE)* How to true the grinding wheel; load and operate the magnetic chuck; rough-grind the discs to precision measurements; and check for accuracy and parallelism.

TURRET LATHE

The Turret Lathe, an Introduction *(17 min., sd., b&w, 16 mm., Order No. OE 212, $30.50, USOE)* Functions of the head, hexagon turret, square turret, and bed; how to determine the sequence of operations; take a multiple cut; and combine cuts from the hexagon and square turrets.

Bar Work: Magnesium. Part I *(18 min., sd., b&w, 16 mm., Order No. OE 216, $32.00, USOE)* How to make a rough sizing cut for the roller turner; set the tool in the roller turner for a finish size; set the automatic stops; and control chip condition.

Bar Work: Magnesium. Part II: Setting Up Multiple Roller Turner and Turning a Taper *(17 min., sd., b&w, 16 mm., Order No. OE 217, $30.50, USOE)* How to set up a multiple roller turner; center-drill the work so that it can be supported with a center; and set up and operate a carriage taper attachment.

Bar Work: Magnesium. Part III: Necking and Threading by Use of Attachment and by Die Head *(23 min., sd., b&w, 16 mm., Order No. OE 218, $40.50, USOE)* How to set the necking and chamfering tools; set and cut 3/4 inch, 10-pitch thread with tangent die head; and cut off the finished piece.

Chuck Work. Part I: Setting Up Hexagon Turret Tools *(22 min., sd., b&w, 16 mm., Order No. OE 213, $38.50, USOE)* How to use a power chuck; set up tools for internal cuts and for multiple cuts; and set up for the hexagon turret.

Chuck Work. Part II: Setting Up Tools for Combined Cuts *(16 min., sd., b&w, 16 mm., Order No. OE 214, $28.50, USOE)* How to set up tools for the square turret; make combined cuts; set cross-slide and carriage stops; set up the speed pre-selector; and perform a sequence of operations efficiently.

Setting Up and Machining Bar Stock *(34 min., sd., b&w, 16 mm., Order No. OE 215, $58.75, USOE)* How to set up the turret lathe for the production machining of bushings from bar stock; install the collet; set up the hexagon turret and the cross slide; and machine bar stock.

VERTICAL BORING

Facing, Turning, Boring, Grooving, and Chamfering *(31 min., sd., b&w, 16 mm., Order No. OE 18, $53.50, USOE)* How to use a fixture for setting up a casting on a verticle turret lather; set cutting tools in the sidehead turret for facing and turning, and in the main head for boring, grooving, and chamfering.

Rough-Facing, Boring, and Turning a Shoulder *(22 min., sd., b&w, 16 mm., Order No. OE 17, $38.50, USOE)* How to set up a rough casting on a verticle turret lathe; face a flange and turn a shoulder with the turret; and face a flange and bore a hole with the vertical turret.

Rough-Facing, Turning, and Drilling *(31 min., sd., b&w, 16 mm., Order No. OE 16, $53.50, USOE)* How to operate the controls of a vertical turret lathe; set up tools in the main turret head; rough-face and rough-turn an aluminum casting; and drill the center hole.

VERTICAL MILLING

Cutting a Dovetail Taper Slide *(26 min., sd., b&w, 16 mm., Order No. OE 73, $45.50, USOE)* How to machine a dovetail taper slide on the vertical milling machine; use a rotary table in milling a taper; and mill to layout lines.

Cutting a Round End Keyway *(22 min., sd., b&w, 16 mm., Order No. OE 74, $38.50, USOE)* How to cut a round end keyway in a steel shaft; align the spindle and workpiece by using a test bar, use a two-lip end mill to sink a hole in solid stock; set trip dogs and table stops; and check the finished dimensions of a round end keyway.

Milling a Circular T-Slot *(22 min., sd., b&w, 16 mm., Order No. OE 76, $38.50, USOE)* How to mill a circular T-slot in solid metal; use a rotary table for continuous circular milling; use a two-lip end mill, end mill, and T-slot cutter; and use a dial indicator with a test bar in aligning a table.

Milling a Helical Groove *(28 min., sd., b&w, 16 mm., Order No. OE 75, $48.75, USOE)* How to mill a helical groove in a cylindrical shaft; select and set the machine gears for milling a helical groove with any lead; and use the dividing head. Explains lead and backlash.

Using a Shell End Mill *(21 min., sd., b&w, 16 mm., Order No. OE 72, $37.00, USOE)* How the vertical milling machine differs from other milling machines; how to produce a flat surface with a shell end mill; use the sliding head, what speed and feed are, and how to calculate them.

MARINE

COOPER BESSEMER DIESEL ENGINE

Bearing Disassembly and Inspection *(14 min., sd., b&w, 16 mm., Order No. MN 2364-c, $25.50, USN)* Demonstrates how to disassemble main bearings; inspect; take readings on the bearing shell; and use care in handling parts.

Bearing Reassembly *(11 min., sd., b&w, 16 mm., Order No. MN 2364-d, $19.25, USN)* Demonstrates how to roll the bearing shell back into place; install cap, wedge blocks, and wedge shoe; and connect the lube oil line.

Cylinder Head *(16 min., sd., b&w, 16 mm., Order No. MN 2364-h, $28.50, USN)* Demonstrates how to inspect and recondition the cylinder head.

Cylinder Head and Piston *(20 min., sd., b&w, 16 mm., Order No. MN 2364-e, $35.25, USN)* Shows how to disassemble the cylinder head and piston; inspect the cover frame; check rocker arms; remove valves and crossheads, wedging piston, piston pin bolts, connecting rod, piston pin caps, and piston pin.

Disassembly, Part I *(16 min., sd., b&w, 16 mm., Order No. MN 2364-a, $28.50, USN)* Demonstrates methods of inspection for all possible parts with methods of removal for all lines and parts in a complete breakdown of the engine.

Disassembly, Part II *(17 min., sd., b&w, 16 mm., Order No. MN 2364-b, $30.50, USN)* Step-by-step demonstration of tools used in disassembly of engine for either overhaul or maintenance, concluding with a review of the important steps of disassembly.

Engine Reassembly, Part I *(16 min., sd., b&w, 16 mm., Order No. MN 2364-j, $28.50, USN)* How to inspect the liner, seat the seal in position in the cylinder block, lower the liner and fit the piston into the liner, put shell into connecting rod bearing, and install the connecting rod bearing cap.

Engine Reassembly, Part II *(17 min., sd., b&w, 16 mm., Order No. MN 2364-k, $30.50, USN)* How to install fire gasket, liner, cylinder nuts, motor-header flange, liner drain plug, exhaust manifold gasket and coverframe, lube oil lines, injector nozzle, air starting and fuel lines; adjust valve clearances; and install cylinder head cover.

Engine Reassembly, Part III *(16 min., sd., b&w, 16 mm., Order No. MN 2364-1, $28.50, USN)* How to secure exhaust manifold, install indicator cock and relief valve unit, secure air starting manifold and supply line, remove coupling gear, close indicator cocks, and tighten wrist pin bolt.

Fuel Pump Disassembly *(15 min., sd., b&w, 16 mm., Order No. MN 2364-p, $27.00, USN)* How to disconnect linkage, remove cover plate, disconnect all lines, remove fuel pump and disassemble at work bench, and remove all parts from pump housing.

Fuel Pump Reconditioning and Reassembly *(23 min., sd., b&w, 16 mm., Order No. MN 2364-q, $40.50, USN)* How to recondition and reassemble parts of a fuel pump system.

Injector Block Reconditioning and Reassembly *(18 min., sd., b&w, 16 mm., Order No. MN 2364-n, $32.00, USN)* How to clean parts, lap valve seats, remove lapping compound, reassemble all valve parts in the injector block, and reassemble auxiliary parts in the injector block.

Injector Block Removal and Disassembly *(15 min., sd., b&w, 16 mm., Order No. MN 2364-m, $27.00, USN)* How to put throttle in closed position, remove inspection window and injector block, and complete disassembly of the injector block and valve parts at a work bench.

Injector Block Replacement and Timing *(13 min., sd., b&w, 16 mm., Order No. MN 2364-o, $23.75, USN)* Demonstrates how to replace the injector block and connecting lines, and explains in detail how to set the injector lifts.

Inspection of Piston *(10 min., sd., b&w, 16 mm., Order No. MN 2364-f, $17.50, USN)* Demonstrates how to inspect piston covers and piston head, measure ring clearance, remove and inspect rings and ring grooves, measure piston pin and bearings, and record measurements.

Reassembly of Cylinder Head *(14 min., sd., b&w, 16 mm., Order No. MN 2364-i, $25.50, USN)* Demonstrates how to reassembly and install the cylinder head; explains each operation and the use of proper tools.

Reassembly of Piston *(11 min., sd., b&w, 16 mm., Order No. MN 2364-g, $19.25, USN)* Demonstrates proper sequence of steps in reassembling pistons.

DIVING

Deep Sea Diving: The Diving Dress *(48 min., sd., b&w, 16 mm., Order No. MN 105-b, $81.25, USN)* Shows characteristics of parts of the diving dress, preparation and inspection of suit for diving, duties of tenders, and how to avoid injury from underwater pressure.

Deep Sea Diving: The Technique of Diving *(24 min., sd., b&w, 16 mm., Order No. MN 105-c, $42.25, USN)* Points out the important factors of dress tenders, telephone line, descending line, and knowledge of the conditions of the dive. Demonstrates the dressing procedure, the method of descending; and depending on water temperature, visibility, and currents.

Experimental Diving Unit—Evaluation of Physical Fitness by the Step-Up Test *(12 min., sd., b&w, 16 mm., Order No. MN 2153A, $22.25, USN)* Equipment needed for the test and procedure for making the test.

Medical Aspects of Diving, Part I: The Mechanical Effects of Pressure *(30 min., sd., color, 16 mm., 1962, Order No. MN 8749-a, $101.00, USN)* Explains how underwater swimmers and divers can prevent harm to themselves by avoiding the application of unequal pressures from the air and the water.

Medical Aspects of Diving, Part II: Effects of Elevated Partial Pressure of Gases *(28 min., sd., color, 16 mm., 1962, Order No. MN 8749-b, $94.50, USN)* Explains how the body is affected by what you breathe and the pressure at which you breathe it.

The Navy Frogmen *(29 min., sd., b&w, 16 mm., Order No. MN 8328, $50.25, USN)* Shows the training of U.S. Navy frogmen, including the underwater training tank at New London, Conn.; advanced training at St. Thomas, Virgin Islands; underwater swimming sequences with aqua lung and Pirelli lung; and an underwater spear fishing sequence.

ENGINES—
FAIRBANKS MORSE DIESEL

Air Start Check Valve, Cylinder Relief Valve, and Indicator Cock *(13 min., sd., b&w, 16 mm., Order No. MN 3691-g, $23.75, USN)* How to disassemble and reassemble the air start check valve, cylinder relief valve, and the indicator cock; and test the cylinder relief valve.

Injection Nozzle *(10 min., sd., b&w, 16 mm., Order No. MN 3691-h, $17.50, USN)* How to test and check injection pressure; and disassemble, clean, and reassemble injection nozzle.

Inspection and Preparatory Steps *(8 min., sd., b&w, 16 mm., Order No. MN 3691-a, $14.25, USN)* Covers the preliminary steps, including inspection, in the maintenance and repair of a Fairbanks Morse Diesel engine, model 38D8 1/8 O.P.

Pistons and Rods *(17 min., sd., b&w, 16 mm., Order No. MN 3691-i, $30.50, USN)* How to disassemble, clean, inspect, and reassemble pistons and connecting rods.

Removal and Replacement of Main Bearings *(22 min., sd., b&w, 16 mm., Order No. MN 3691-d, $38.50, USN)* Demonstrates how to remove and replace upper and lower main bearings; and clean, inspect, and measure bearing shells.

Removal of Cylinder Liner *(27 min., sd., b&w, 16 mm., Order No. MN 3691-j, $47.00, USN)* How to remove liner, including various connections and lines, timing mechanism, connecting rods, and upper crankshaft.

Removal of Injection Nozzles *(5 min., sd., b&w, 16 mm., Order No. MN 3691-b, $9.25, USN)* Demonstrates how to remove injection nozzles, cylinder relief valve, indicator cock, and the air start check valve.

Removal of Pistons *(21 min., sd., b&w, 16 mm., Order No. MN-3691-c, $37.00, USN)* Demonstrates how to disconnect and remove both upper and lower pistons.

Replacement of Cylinder Liner *(26 min., sd., b&w, 16 mm., Order No. MN 3691-k, $45.50, USN)* How to replace cylinder liner; including upper crankshaft, connecting rods, timing mechanism, and various connections and lines.

Replacement of Injection Nozzles *(6 min., sd., b&w, 16 mm., Order No. MN 3691-f, $11.00, USN)* Demonstrates how to replace injection nozzles, cylinder relief valve and indicator cock, and the air start valve.

Replacement of Pistons *(20 min., sd., b&w, 16 mm., Order No. MN 3691-e, $35.25, USN)* Demonstrates how to replace and connect both upper and lower pistons.

ENGINEERING

Construction of an Offshore Light Station *(29 min., sd., color, 16 mm., 1963, $110.00, USCG)* An actual documentary record of the construction of such a steel tower light station, from assembly of its prefabricated parts in the shipyard thru movements to the site and erection of the parts of the tower.

Introduction to Environmental Engineering *(22 min., sd., color, 16 mm., 1962, Order No. MN 9665, $74.75, USN)* Highlights some of the more important environmental engineering management areas and interrelates them in problem-solving approaches.

Shipboard Vibrations. Part I: Fundamental Principles of Vibrating Systems *(22 min., sd., b&w, 16 mm., Order No. MN 9180-a, $38.50, USN)* Explains basic concepts and principles including longitudinal and torsional vibrations, free and forced vibrations, the time relationship between the force cycle and the amplitude cycle, and the phase angle diagram.

Shipboard Vibrations. Part II: Multi-Mass Systems *(23 min., sd., b&w, 16 mm., Order No. MN 9180-b, $40.50, USN)* Explains basic concepts including those of a uniform system, a lumped system, modes of vibration, relative amplitudes, harmonic analysis, orders of vibration, and critical speeds.

Shipboard Vibrations. Part IV: Service Problems and Field Investigation *(13 min., sd., b&w, 16 mm., Order No. MN 9180-d, $23.75, USN)* Explains how to report shipboard vibration problems, how they are diagnosed and remedied by vibration engineers, and how vibration study as preventive engineering contributes to overall ship design and performance.

Shipboard Vibrations. Part III: Vibration, Excitation, and Response *(15 min., sd., b&w, 16 mm., Order No. MN 9180-c, $27.00, USN)* Shows through models, vibration excitation in the propulsion machinery due to imbalance and to propeller thrust variation, and the response of the ship's structure to this excitation; explains through vector representation how propeller thrust variation provides excitation; and demonstrates the necessity for taking vibrations into account in ship design.

Ship Design for Tomorrow *(25 min., sd., color, 16 mm., Order No. MN 8610, $84.75, USN)* Explains the professional opportunities, career advantages, and working environment in the U.S. Navy's Bureau of Ships and in its field activities.

U.S. Naval Civil Engineering Laboratory *(17 min., sd., color, 16 mm., Order No. MN 8800, $58.50, USN)* Portrays scientific and technical information of the operation and functions of the U. S. Naval Civil Engineering Laboratory at Port Hueneme, California.

ENGINES, 8-268A Diesel

Bearing Removal and Inspection, 8-268A Engine *(17 min., sd., b&w, 16 mm., Order No. MN 209-d, $30.50, USN)* Demonstrates how to disassemble the main bearing; inspect, clean, and replace bearing shells; and reassemble the bearing.

Bench Work, 8-268A Engine *(14 min., sd., b&w, 16 mm., Order No. MN 209-c, $25.50, USN)* Demonstrates how to check parts for cracks, use ring expansion tool, insert wrist pin bearings, reassemble piston, and replace needles in the eye of connecting rod.

Disassembly of the 8-268A Engine *(27 min., sd., b&w, 26 mm., Order No. MN 209-a, $47.00, USN)* Demonstrates how to remove air lines, manifold, rocker arm assembly, piston, lever, injector, and cylinder head; stresses precautions to be observed.

Reassembly of the 8-268A Engine *(36 min., sd., b&w, 16 mm., Order No. MN 209-b, $62.00, USN)* Demonstrates how to reassemble the General Motors 8-268A Diesel engine.

ENGINES—GENERAL

Basic Hydraulic Governor *(17 min., sd., b&w, 16 mm., Order No. MN 2598-a, $30.50, USN)* Function of Marquette hydraulic governor; basic construction; operation of principal parts of the hydraulic system. Schematic animation.

BMEP *(10 min., sd., b&w, 16 mm., Order No. MN 2598-c, $17.50, USN)* Explains how the governor operates for normal and low speeds; and how the BMEP limiter functions when fuel is on and off, reduces the fuel supply to an overloaded engine, and goes out of position when the full operation is completed.

The Construction of Diesel Engines *(17 min., sd., b&w, 16 mm., Order No. MN 43, $30.50, USN)* Shows the general structure of several types of diesel engines and the different frame types, cylinder parts, pistons, piston rings, connecting rods, crankshafts, bearings, camshafts, and rocker assemblies.

Denison Hydraulic Pumps and Motors—Disassembly *(24 min., sd., b&w, 16 mm., Order No. MN 8981, $42.25, USN)* This film shows the procedure for disassembly and reassembly of the serve control, the hanger assembly, piston and cylinder assemblies, auxiliary package, main drive shaft and valves. Cleanliness is emphasized throughout. The film opens by showing how the pump works and how it differs from other pumps of this type.

The Diesel Engine *(29 min., sd., b&w, 16 mm., Order No. MN 42-a, $50.25, USN)* Shows how ignition may be achieved by compression; describes basic diesel engine types; discusses forms of air headers and fuel injectors. Introductory survey film.

Diesel Engine Governors, Part I: Woodward Governors *(14 min., sd., b&w, 16 mm., Order No. MN 44-a, $25.50, USN)* Shows the operation of diesel engine governors and explains the operation of overspeed, overspeed trip, and regulating governors.

Diesel Engine Governors, Part II: GM Series 71, Limiting Speed Mechanical Governors *(12 min., sd., b&w 16 mm., Order No. MN 44-b, $22.25, USN)* Discusses three main assemblies of the governor and their functions. Reviews the operation of the manual full control to explain the action of the governor through low intermediate, and high speed ranges.

Diesel Engine Fuel Systems *(40 min., sd., b&w, 16 mm., Order No. MN 46-a, $68.50, USN)* Shows the basic structure of diesel fuel systems, parts and operation of injectors and fuel pumps, and Bosch, General Motors, and Excello equipment.

The Diesel Engine: Scavenging and Supercharging Diesel Engines *(15 min., sd., b&w, 16 mm., Order No. MN 42-b, $27.00, USN)* Shows operation of two-stroke cycle, single and double acting engines, and opposed piston engines. Discusses method of scavenging and supercharging air.

Diesel Lubrication and Cooling Systems *(10 min., sd., b&w, 16 mm., Order No. MN 45-a, $17.50, USN)* Parts of diesel lubricating and cooling systems and how they work in relation to each other.

Diesel Lubrication and Cooling Systems: Lubrication of the GM-71 Series Engines *(12 min., sd., b&w, 16 mm., Order No. MN 45-b, $22,25, USN)* Shows, by the use of animation, the course of the oil through the engine; describes how it lubricates each component part; and explains the working principle of the ventilation system.

General Motors Diesel Engine Unit Injectors: Disassembly and Reassembly, Model 278 *(18 min., sd., b&w, 16 mm., Order No. MN 2769-b, $32.00, USN)* Shows how to disassemble and reassemble General Motors Diesel engine unit injector model 278.

General Motors Diesel Engine Unit Injectors: Maintenance *(18 min., sd., b&w, 16 mm., Order No. MN 2769-a, $32.00, USN)* How to disassemble, handle, clean, and inspect the diesel engine unit injector.

Marine Diesel Engines for Power Boats *(16 min., sd., b&w, 16 mm., Order No. MN 47, $28.50, USN)* Shows the Buda marine diesel engines DA, DB, and DD; explains the mechanical operation of the DB, and its points of difference from the DD.

Marine Gas Turbine Engines: The Boeing 502-10C Engine *(22 min., sd., color, 16 mm., Order No. MN 7407-d, $74.75, USN)* Uses art, a cutaway engine model, and an engine in actual use to demonstrate the construction, operation, and maintenance of the 502-10C engine.

Marine Gas Turbine Engines, Principles of Operation *(19 min., sd., color, 16 mm., Order No. MN 7407-a, $65.00, USN)* Explains the basic principles of the gas turbine engine, variations in the design of turbines currently in use, and the applications of the gas turbine in the operation of pumps, boats, trucks, and helicopters.

Marine Gas Turbine Engines: The Solar T-45 Engine *(23 min., sd., color, 16 mm., Order No. MN 7407-c, $78.25, USN)* Discusses the basic concept behind the gas turbine engine, its assembly and operation, unit accessories and their functions, and how to operate the unit.

Marine Gas-Turbine Engine: Trouble Shooting *(16 min., sd., color, 16 mm., Order No. FN 7407-b, $55.00, USN)* Describes the general procedure for locating the cause of trouble when a gas-turbine engine fails to start, to attain power, to keep oil pressure, or to maintain performance.

Naval Steam Turbines: How Turbines Work *(17 min., sd., b&w, 16 mm., Order No. MN 6732-b, $30.50, USN)* Discusses the basic principles and design of main propulsion and auxiliary steam turbines in Navy use. Explains differences between impulse and reaction thrust, how turbines work on steam velocity produced by drops in pressure and complexities of the marine steam turbine, due to many variations in design to meet various requirements.

Naval Steam Turbines: Turbine Casualties *(12 min., sd., b&w, 16 mm., Order No. MN 6732-c, $22.25, USN)* Explains the delicate nature of turbine equipment and the care which should be observed in its oiling, cleaning, and maintenance.

Powerhead *(5 min., sd., b&w, 16 mm., Order NO. MN 2598-d, $9.25, USN)* Shows adjustment of the speeder spring and construction and operation of the powerhead. Demonstrates the speed-setting control of the governor.

Speed Drop *(5 min., sd., b&w, 16 mm., Order No. MN 2598-b, $9.25, USN)* Demonstrates how load equalizer is added to the governor to control speed, and how the power piston and speeder spring function.

ENGINES—
GENERAL MOTORS 12-567A

Bearings *(9 min., sd., b&w, 16 mm., Order No. MN 3708-c, $15.75, USN)* How to remove, inspect, and install main bearing cap, lower bearing shell, and upper bearing shell.

Cylinder Head Removal *(22 min., sd., b&w, 16 mm., Order No. MN 3708-a, $38.50, USN)* How to remove piston oiling cooling tubes, cylinder head covers, test valve, rocker arm assemblies, fuel lines, injector linkage, injectors, and cylinder head.

Installation of Cylinder Head *(23 min., sd., b&w, 16 mm., Order No. MN 3708-e, $40.50, USN)* How to position the cylinder head; install injector linkages, fuel lines, rocker arm assemblies, test valves, and piston cooling oil lines.

Installation of Cylinder Head *(23 min., sd., b&w, 16 mm., Order No. MN 3708-f, $40.50, USN)* How to recondition the cylinder head, remove valve springs and valves; reface and check valve seats; check height of valve stems; and clean and inspect parts.

Installation of Liner and Piston *(23 min., sd., b&w, 16 mm., Order No. MN 3708-d, $40.50, USN)* How to install liners, blade rod piston assembly, fork rod piston assembly, and pistons; and secure pistons with the bearing cap.

Liner and Piston *(20 min., sd., b&w, 16 mm., Order No. MN 3708-h, $35.25, USN)* How to inspect liner; disassemble piston rod assembly; inspect slipper rod assembly, piston assembly, and piston; and replace rings.

Piston and Liner Removal *(12 min., sd., b&w, 16 mm., Order No. MN 3708-b, $22.25, USN)* How to remove connecting rod bearing, fork rod piston assembly, blade rod piston assembly, and opposite liners.

Reconditioning the Fuel Pump *(17 min., sd., b&w, 16 mm., Order No. MN 3708-g, $30.50, USN)* How to install seal assembly, diaphragm, copper seal gasket, shim, setting bar, and spacer in the fuel pump.

ENGINES—
GENERAL MOTORS 16-278A

Bearings *(11 min., sd., b&w, 16 mm., Order NO. MN 3707-b, $19.25, USN)* Deals with the maintenance of bearings, and demonstrates how to remove main bearings, inspect and install bearing shells.

Benchwork, Part I *(14 min., sd., b&w, 16 mm., Order No. MN 3707-e, $25.50, USN)* How to remove valves, overspeed trip assembly, transfer block, and check valve.

Benchwork, Part II *(19 min., sd., b&w, 16 mm., Order No. MN 3707-f, $33.75, USN)* How to clean and inspect the head; resurface valve seats; lap valves; and "mike" guides and valves.

Benchwork, Part III *(12 min., sd., b&w, 16 mm., Order No. MN 3707-g, $22.25, USN)* How to install valves, overspeed trip, and transfer block; test valve and relief valve assembly; and start air starting check valve.

Benchwork, Part IV *(26 min., sd., b&w, 16 mm., Order No. MN 3707-h, $45.50, USN)* How to disassemble the piston assembly; inspect and "mike" the piston, wrist pin, and wrist pin bearings; check ring clearance; reassemble piston and rod; and inspect, clean, and "mike" the liner.

Disassembly *(30 min., sd., b&w, 16 mm., Order No. MN 3707-a, $52.00, USN)* How to inspect blower rotors and pistons; remove head and scrape wear ridge; remove connecting rod bearing; and pull one piston and one liner in piston assembly.

Reassembly, Part I *(23 min., sd., b&w, 16 mm., Order No. MN 3707-c, $40.50, USN)* How to install liner, piston assembly, cylinder head, and rocker lever assembly in reassembly of the General Motors 16-278A Diesel engine.

Reassembly, Part II: Head *(27 min., sd., b&w, 16 mm., Order No. MN 3707-d, $47.00, USN)* How to install injector and controls; test injector; adjust injector; install valve bridges and rocker shaft; and assemble and time injector and exhaust.

MAINTENANCE

Boiler Repair, Water Side: Introduction *(9 min., sd., b&w, 16 mm., Order No. MN 7861-a, $15.75, USN)* An introduction to basic problems and conditions leading to boiler repairs, both water side and fire side. Discusses failure of tubes, their inspection and/or replacement, condition of the refractory, and various checkpoints.

Boiler Repair, Water Side: Removing Boiler Tubes *(10 min., sd., b&w, 16 mm., Order No. MN 7861-b, $17.50, USN)* Shows proper tools, materials, methods, precautions, and overall conditions for replacing boiler tubes. Stresses safety precautions.

Boiler Repair, Water Side: Replacing Boiler Tubes *(8 min., sd., b&w, 16 mm., Order No. MN 7861-c, $14.25, USN)* Shows how to replace boiler tubes after they have been properly removed and inspected for possible faults in operation and safety.

Boiler Repair, Water Side: Closing the Boiler *(10 min., sd., b&w, 16 mm., Order No. MN 7861-d, $17.50, USN)* Shows how to close the broiler and prepare it for service again after all necessary inspections have been made to the water sides, including inspection and replacement of faulty tubes.

Boiler Repairs, Fire Side: Building Walls and Floors *(13 min., sd., b&w, 16 mm., Order No. MN 7862-a, $23.75, USN)* Shows the materials and methods to be utilized in building walls and floors in the fire side of the boiler. Includes a step-by-step analysis of laying insulating brick and firebrick by layers, and painting with air-setting mortar.

Boiler Repairs, Fire Side: Installing Plastic Fire Brick *(7 min., sd., b&w, 16 mm., Order No. MN 7862-b, $12.50, USN)* Discusses conditions for using plastic firebrick and shows the step-by-step method of applying this material. Explains its advantages and disadvantages.

Boiler Repairs, Fire Side: Installing Plastic Chrome Ore *(5 min., sd., b&w, 16 mm., Order N. MN 7862-c, $9.25, USN)* Shows how to apply plastic chrome ore in a boiler through the portrayal of an actual installation from beginning to end. Stresses careful procedures and safety.

Boiler Repairs, Fire Side: High Temperature Castable Refractories *(14 min., sd., b&w, 16 mm., Order No. MN 7862-d, $25.50, USN)* Explains the use of high temperature castable refractory and castable chrome ore, conditions necessary for their utilization, and all necessary steps for application, from pre-mixing of materials to air-drying and baking-out.

NAVIGATION

Aids to Navigation *(22 min., sd., color, 16 mm., 1959, $83.00, USCG)* Presents through animation and live action the various Aids to Navigation, including: lighthouses, lightships, radio beacons, LORAN, and elements of the buoyage system. Light and sound characteristics are demonstrated.

The Astronomical Triangle *(37 min., sd., b&w, 16 mm., Order No. MN 83-d, $63.50, USN)* Explains how the astronomical triangle is formed, and its use in determining the position of ships on the earth's surface. College level.

Buoys and Beacons *(10 min., sd., color, 16 mm., Order NO. MN 202ab, $34.00, USN)* Explains the functions and distinguishing features of buoys and beacons—color, numbering, shape, and characteristics of lights; and shows how to identify each type.

Charts *(18 min., sd., b&w, 16 mm., Order No. MN 83-b, $32.00, USN)* Explains the meaning, advantages, and limitations of Mercator, gnomonic, and Lambert conformal projections.

Coast Guard Lighthouses *(18 min., sd., color, 16 mm., 1960, $55.00, USCG)* Since 1716, when Boston Lighthouse was constructed, the subject of lighthouses has fascinated the public. The Coast Guard maintains 368 active light stations. Only a representative few are included here. The first part of this film is devoted to lighthouses about 1800; the remainder is to modern lighthouses.

The Compass System *(16 min., sd., b&w, 16 mm., Order No. MN 1792-e, $28.50, USN)* Explains and demonstrates the five major assemblies of a Sperry Mark 14 gyro compass (sensitive, phantom, and spider elements, mercury, ballistic, and binnacle); and shows the operation of the follow-up and repeater systems.

Day's Work of a Navigator at Sea *(15 min., sd., b&w, 16 mm., Order No. MN 6742-b, $27.00, USN)* Reviews the general duties of a navigator on a destroyer, including morning position, morning sun, time signal, noon sun, course changes, afternoon sun, evening stars, and night orders.

Day's Work of a Navigator in Pilot Waters *(13 min., sd., b&w, 16 mm., Order No. MN 6742-c, $23.75, USN)* Reviews the general duties of a navigator on a destroyer, including working LORAN position, studying harbor charts and tide tables, operating fathometer, taking bearings, making soundings, and anchoring.

Dead Reckoning: Plotting, and Celestial Lines of Position *(40 min., sd., b&w, 16 mm., Order No. MN 83-g, $68.50, USN)* Explains the basic plan of the Mark 3 board; animating a small scale problem as it is worked out on the board; plots in geographic position and solution of wind problem. College level.

The Earth *(17 min., sd., b&w, 16 mm., Order No. MN 83-a, $30.50, USN)* Explains the arrangement and meaning of the poles, great circles, parallels, meridians, longitude, latitude, nautical mile, and departure. College level.

Floating Drydocks: Careening the YFD-6 *(17 min., sd., b&w, 16 mm., Order No. MN 9042, $30.50, USN)* Shows the method of tipping an 18,000 ton yard floating dock on its beam to provide passage through the Panama Canal, and explains the need for this type of careening where docks have a wider beam than the width of the canal.

How To Use Navigational Aids *(7 min., sd., color, 16 mm., Order No. MN 202-ac, $24.50, USN)* Explains how to use navigational aids and interpret the symbols on nautical charts.

Lighthouses and Lightships *(10 min., sd., color, 16 mm., Order No. MN 202aa, $34.00, USN)* Gives distinguishing characteristics of lighthouses and lightships. Illustrates fixed light, flashing light, fixed and flashing light, group flashing, occulting, and alternation of color flashes.

The Link Sextant, Air *(16 min., sd., b&w, 16 mm., Order No. MN 83-x, $28.50, USN)* Explains the operating principle of the sextant and the reading of the vernier scale; shows two ways of making observations and how to grip the sextant when making observations.

Nautical Astronomy *(23 min., sd., b&w, 16 mm., Order No. MN 83-c, $40.50, USN)* Explains how the celestial coordinates are placed in relation to the earth, and how declination, zenith point, nadir line, and the June and September solstices are used in celestial navigation. College level.

Night Piloting, Surface *(18 min., sd., b&w, 16 mm., Order No. MN 83-u, $32.00, USN)* Studies a night piloting problem and shows the procedure of bringing the U.S.S. Savannah into a harbor at night.

Piloting, Surface *(33 min., sd., b&w, 16 mm., Order No. MN 83-h, $56.75, USN)* Stresses the importance of accurate piloting and discusses briefly the use of the bearing circle, compass repeater, and alidade in securing bearings.

Real and Apparent Motions *(18 1/2 min., sd., color, 16 mm., 1962, Order No TF 1-5461, $63.25, USAF)* Uses animation to define real and apparent motions. Shows how real motions of the earth, rotation and revolution, combine with inclination of the earth's axis to produce apparent motions of the sun and stars. Pictures the relative position of the earth, sun, and stars in the celestial sphere and in elementary terms relates their motions to the problems of celestial navigation. Cleared for TV.

Relative Movement. Part I: Relative Movement and Interception *(14 min., sd., b&w 16 mm., Order No. MN 83-y, $25.50, USN)* Shows the basic principles of relative movement and interception between planes and ships, the angle between the relative motion line and the ship's course, relation between speed and direction, and how to plot course and determine the time of arrival of plane and ship.

Relative Movement. Part II: Out and In Search, Relative Wind *(13 min., sd., b&w, 16 mm., Order No. MN 83-z, $23.75, USN)* Covers relative movement, computing time speed when leaving and returning to carrier, searching on a relative bearing to a carrier, and relative wind.

Sentries of the Sea Lanes *(28 min., sd., color, 16 mm., 1954, $103.00, USCG)* Shows how the Coast Guard operates and maintains the 22,000 buoys that mark the coastal and inland waterways of our country and its outlying possessions. Dedicated to the officers and men who perform such duties.

Star Identification *(16 min., sd., b&w, 16 mm., Order No. MN 83-f, $28.50, USN)* Explains briefly the apparent movement of the stars across the sky; and locates and identifies 23 basic navigation stars, including Duthe, Polaris, Arcturus, Spica, Regulus, Vega, Betelguese, Sirius, and several important constellations.

Time *(57 min., sd., b&w, 16 mm., Order No. MN 83-e, $98.75, USN)* Explains the division of the globe into time zones; apparent, sidereal, and mean time; use of the chronometer; and three means of computation of time and its reckoning.

RESEARCH

The Dolphins That Joined the Navy *(26 1/2 min., sd., color, 16 mm., 1964, Order No. MN 10199, $89.75, USN)* Glenn Ford is the on-camera narrator for this film which shows the Navy's extensive research with dolphins and discusses future applications of the researchers' findings.

Naval Ordnance Laboratory: The N-O-L Story *(20 min., sd., color, 16 mm., Order No. MN 9165, $68.25, USN)* Describes the work involved in the research and development of the U.S. Navy's latest (1951) weapons. Sequences feature supersonic wind tunnels, ten-million volt betatron, giant magnetic coils, bomb-drop test tower, and hydrostatic pressure tanks.

The Naval Research Laboratory Reactor *(21 min., sd., color, 16 mm., Order No. MN 8865, $71.50, USN)* Explains the construction, operation, and uses to which the Naval Research Laboratory reactor is adapted.

The Navy and Science *(12 min., sd., b&w, 16 mm., Order No. MN 6658, $22.25, USN)* Highlights some of the scientific research programs being conducted by the Navy.

Vibration Problems in the Design of Shipboard Electronic Equipment *(19 min., sd., b&w, 16 mm., Order No. MN 8681-b, $33.75, USN)* Demonstrates how breakage can occur when equipment chassis are not protected against vibration and shock. Shows ways in which vibration can be eliminated by the use of bands, screws, and braces placed in different ways on a chassis.

RULES OF THE ROAD

The Beaver Selja Incident *(5 min., sd., b&w, 16 mm., Order No. MN 202-y, $9.25, USN)* Collision of the Beaver and the Selja; and the reasons therefor.

City of Rome Incident *(5 min., sd., color, 16 mm., Order No. MN 202-d, $18.00, USN)* Dramatizes how 37 men in a submarine met their death because of improper placement of running lights and disregard for rules of the nautical road.

Crossing at Night *(20 min., sd., color, 16 mm., Order No. MN 202-u, $68.25, USN)* Defines the meaning of crossing in relation to a ship's bearings and presents several examples of ships crossing, the exchange of signals, and the resultant action of each ship.

Crossing Steam Vessels *(15 min., sd., b&w, 16 mm., Order No. MN 202-r, $27.00, USN)* Explains whistle signals and rules for crossing in international and inland waters.

The Halifax Incident *(6 min., sd., b&w, 16 mm., Order No. MN 202-a, $11.00, USN)* Shows how misinterpretation of ship's whistle signal caused the collision of the Halifax.

Legal Requirements for Boatmen *(17 1/2 min., sd., color, 16 mm., 1968, $66.00, USCG)* Legal requirements, both State and Federal, are discussed. Federal requirements for boat numbering and documenting, lifesaving devices, fire extinguishers, horns and whistles, lights and accident reports are shown. Cleared for TV.

Lights, Running and Anchor *(18 min., sd., color, 16 mm., Order No. MN 202-c, $61.75, USN)* Shows inland and international rules for color of lights; position and visibility for masthead, side, range, and anchor lights; and lights displayed by vessels being overtaken.

Lights, Vessels Being Towed *(10 min., sd., color, 16 mm., Order No. MN 202-f, $34.00, USN)* Inland light rules for barges and canal boats; scow barges, scows, and nondescript vessels in New York harbor area; and dump scows in New York harbor.

Meeting at Night *(20 min., sd., color, 16 mm., Order No. MN 202-m, $68.25, USN)* Shows five basic meeting situations and the proper night whistle signals on the ocean, in inland waters, and in narrow channels; explains the causes of head-on collisions; and shows emergency action signals.

Meeting Steam Vessels *(18 min., sd., b&w, 16 mm., Order No. MN 202-k, $32.00, USN)* Gives examples of steam vessels meeting on the ocean and in inland waters, demonstrates whistle signals for various situations; and shows how to figure the degree of a vessel's turn at various distances.

Overtaking at Night *(15 min., sd., color, 16 mm., Order No. MN 202-q, $51.75, USN)* Illustrates the correct use of whistle signals in overtaking situations on the ocean and in inland waters.

Overtaking Situation *(15 min., sd., b&w, 16 mm., Order No. MN 202-n, $27.00, USN)* Gives whistle signals to be used when overtaking on the ocean, in inland waters, and in narrow channels; and demonstrates examples of their use.

Rules in Fog *(17 min., sd., b&w, 16 mm., Order No. MN 202-v, $30.50, USN)* Explains when to use fog and danger signals, the meaning of fog signals under inland and international rules, and how to determine safe speed in fog.

Rules of the Nautical Road: Introduction *(22 min., sd., b&w, 16 mm., Order No. MN 202-b, $30.50, USN)* Describes and illustrates by animation international rules of navigation, the importance of taking bearings, and selected nautical terms.

Rules of the Road for Boatmen *(16 min., sd., color, 16 mm., 1959, $63.00, USCG)* While primarily designed for the information of small craft owners, the Inland Rules as interpreted in this film are applicable to all vessels except those under International Rules, Western Rivers Rules, and the Great Lakes Rules. Presents through animation and live action, the meeting, passing, and overtaking situations, as well as small craft versus large vessels, and proper procedure in fog.

Rules of the Road, International: Restricted Visibility Situations *(10 min., sd., b&w, 16 mm., Order No. MN 9302-g, $17.50, USN)* Shows what to do in situations when visibility is restricted.

Rules of the Road, International: Vessel Crossing, Daytime *(21 min., sd., b&w, 16 mm., Order No. MN 9302-b, $37.00, USN)* Shows what should be done when vessels cross in the daytime.

Rules of the Road, International: Vessels Overtaking, Daytime *(19 min., sd., b&w, 16 mm., Order No. MN 9302-c, $33.75, USN)* Shows what should be done when vessels are overtaking in daytime, and stresses the obligation of all vessels in obeying the rule that the overtaking vessel must keep out of the way of the overtaken vessel. Explains what should be done when the rule is not observed and points out that the ordinary practice of seamen must apply in many borderline situations that arise on the seas.

Rules of the Road, International: Special Daytime Situations *(11 min., sd., color, 16 mm., Order No. MN 9302-d, $37.25, USN)* Shows how to tell the status, occupation, or degree of maneuverability of vessels not in independent operation in daylight. Illustrates special signals to warn other vessels of a ship's situation, and explains in each instance the action to be taken by the observing ship. Includes situations of a ship at anchor, a vessel not under command, a vessel aground, one engaged in a special occupation, and one engaged in fishing.

Special Circumstances *(14 min., sd., b&w, 16 mm., Order No. MN 202-x, $25.50, USN)* Illustrates five cases in which the courts decided the rules of special circumstances were not applicable.

Special Lights *(29 min., sd., color, 16 mm., Order No. MN 202-g, $97.75, USN)* International and inland rules for flare-up, naval and navigation signals, pilot vessels, fishing vessels, trawlers, ferry boats, dredges, sub-surface vessels, pipe lines, floating plants, airplanes, small craft, fishing craft at anchor, etc.

Special Steering and Sailing Rules *(14 min., sd., b&w, 16 mm., Order No. MN 202-z, $25.50, USN)* Gives the steering and sailing rules governing a steam vessel under way and a sailing vessel fishing; defines "privilege" and "burden".

The Svea-Newport Incident *(3 min., sd., b&w, 16 mm., Order No. MN 202-t, $6.25, USN)* Shows by animation the collision of the Svea and the Newport; and the causes therefor.

The Taurus-Gulf Trade Incident *(3 min., sd., b&w, 16 mm., Order No. MN 202-p, $6.25, USN)* Collision of the Gulf Trade and the Taurus; and the causes therefor.

Towing Lights *(7 min., sd., color, 16 mm., Order No. MN 202-e, $24.50, USN)* Gives light specifications for tows; and shows lights for submerged tows, vessels in tow, barges, canal boats, scows, and dump scows in New York harbor.

The Varanger-Dora Weems Incident *(4 min., sd., b&w, 16 mm., Order No. MN 202-o, $7.75, USN)* Collision of the Varanger and the Dora Weems; and the causes therefor.

Visual Day Signals *(14 min., sd., color, 16 mm., Order No. MN 202-i, $48.50, USN)* Shows international day signals, and various other signals.

Whistle Signals for Approaching Steam Vessels *(17 min., sd., b&w, 16 mm., Order No. MN 202-j, $30.50, USN)* Shows by animation the rules for using 1, 2, and 3 blast signals, the danger signal, and the bend signal in various approaching situations.

SEAMANSHIP

Conversion from Black Oil to Gasoline: Navy Chemical Method *(27 min., sd., b&w, 16 mm., Order No. MN 6689-c, $47.00, USN)* Shows how a complete conversion from black oil to gasoline cargo involves maintenance tank cleaning by the Butterworth method, the Navy chemical method. Gives detailed instructions concerning the technical method.

Conversion from Black Oil to Diesel Fuel: Navy Improved Method *(24 min., sd., b&w, 16 mm., Order No. MN 6689-b, $42.25, USN)* Procedures to be followed in conversion of a tanker from black oil to Diesel fuel cargo.

Damage Control: Civilian-Manned Ships *(21 min., sd., b&w, 16 mm., Order No. MN 8387, $37.00, USN)* Provides information to civilian marine personnel on the importance of damage control as a safety-at-sea measure. Explains how individual crew members fit into the damage control organization of MSTS ships in service, and shows how practice through drills can develop skill, confidence, and readiness for emergencies.

Lifeboats Under Gravity Davits: Launching Boats *(25 min., sd., b&w, 16 mm., Order No. MN 7835-a, $43.75, USN)* Shows in detail the method of launching the merchant marine type of nested lifeboats using the "Welin gravity davit." Demonstrates methods of launching at dockside and while underway at sea.

Lifeboats Under Gravity Davits: Recovering Boats *(15 min., sd., b&w, 16 mm., Order No. MN 7835-b, $27.00, USN)* Shows in detail the single method of recovering the merchant marine type of nested lifeboats using the "Welin gravity davit." Demonstrates an actual discovery.

Location of Decks and Compartments *(17 min., sd., b&w, 16 mm., Order No. MN 2334-b, $30.50, USN)* Explains number and letter designations and deck and compartment arrangement aboard ship.

Maintenance and Repair of Steam Condensers: Circulating Water Side *(17 min., sd., b&w, 16 mm., Order No. FN 6733, $30.50, USN)* Explains the principle and operation of the steam condenser, and shows the procedures of preparing, cleaning, inspecting, repairing, and testing a condenser.

Maintenance Tank Cleaning: Butterworth Method *(31 min., sd., b&w, 16 mm., Order No. MN 6689-a, $53.50, USN)* Explains how purposes govern procedures to be followed and shows basic techniques in applying Butterworth method.

Navy Standard Swimming Test and Abandoning Ship Drills *(18 min., sd., b&w, 16 mm., Order No. MN 2652-b, $32.00, USN)* Shows various tests given to Navy personnel to determine swimming abilities; and illustrates abandoning ship drills.

Rigging Blocks *(11 min., sd., b&w, 16 mm., Order MN 2340-h, $19.25, USN)* Shows operation of tackle pulleys—whip, gun, luff, and two-fold purchase; and explains how mechanical advantage is obtained.

Rigid and Swinging Staging *(18 min., sd., b&w, 16 mm., Order No. MN 2340-c, $32.00, USN)* Shows how to set up rigid staging, use A-frame stage and extension, double boards overlapped, and a life-line; how to rig swinging staging, using single width boards and life-line; and how to take down staging and show it.

Use and Care of Fiber Rope *(20 min., sd., b&w, 16 mm., Order No. MN 2340-b, $35.25, USN)* Explains how to care for, inspect and use fiber ropes; compares sisal, manila and jute; and shows methods of splicing and eyeing.

Use and Care of Wire Rope *(18 min., sd., b&w, 16 mm., Order No. MN 2340-a, $32.00, USN)* Describes the construction, use, and protective qualities of wire rope; stresses importance of careful handling to avoid kinks; and explains seizing, the eye splice, frieze fitting, and the thimble.

U. S. Navy Armored Life Jacket *(7 min., sd., b&w, 16 mm., Order No. MN 9026, $12.50, USN)* Demonstrates how a bullet-proof fabric material called Doran can be used to protect Navy personnel against small arms fire.

Wire Rope Terminal Connections *(31 min., sd., b&w, 16 mm., Order No. MN 2340-g, $53.50, USN)* Demonstrates how to make and test the following terminal connections—clips, eye splices, and metallic splices.

SEARCH AND RESCUE

AMVER-Automated Merchant Vessel Reports *(14 min., sd., color, 16 mm., 1965, $57.00, USCG)* A graphic fast-moving description of the AMVER system and how it works as an aid to the development and co-ordination of Search and Rescue efforts at sea. The system is shown in action as its electronic computer furnish positions and medical capability information of nearby merchant vessels in three distress cases—two different ships and one aircraft. Cleared for TV.

Coastal Search and Rescue *(22 min., sd., color, 16 mm., 1967, $84.00, USCG)* Through dramatic art scenes and still photos the history of coastal lifesaving efforts is traced from 1786 to the 1930 era. Live action color photography follows the development of rescue equipment and procedures necessary to cope with the present-day pleasure boating population explosion. This film covers two complete rescue scenes; one by 44-foot rescue boat, another by helicopter. Cleared for TV.

The Eighth Mission *(28 1/2 min., sd., color, 16 mm., 1968, $105.00, USCG)* A fast moving presentation of highlights of the major missions of the Coast Guard: Search and Rescue, Merchant Marine Safety, Aids to Navigation, Marine Law Enforcement, Oceanography, Meteorology and Polar Operations, Military Preparedness and Operations, Reserve Training and "SEMPER PARATUS"—the eighth mission—the "ALWAYS READY" capability to serve better the needs of the domestic and international maritime community and the marine sciences. Cleared for TV.

Ready on Ocean Station November *(10 min., sd., color, 16 mm., 1957, $60.00, USCG)* An authentic documentary on the ditching of a large commercial plane at sea near a Coast Guard ocean station vessel. Preparations for the ditching are shown; the actual ditching at sea; and the OSV's small boats picking up men, women and children. All survivors were saved in the most unusual film record of the rescue.

Search and Rescue—Pleasure Craft *(26 min., sd., color, 16 mm., 1960, $88.00, USCG)* This film reveals the existence and explains the operation of the Search and Rescue network as it applies to surface craft, especially pleasure boats. It details specifically the proper procedures to be followed by vessels in distress in obtaining search and rescue assistance.

Search and Rescue—Visual Aspects of Search and Signalling *(19 min., sd., color, 16 mm., Order No. MN 5309A, $65.00, USN)* Relative merits of dye markers, very pistols, flares, smokes and mirrors; air search patterns.

SHIPBUILDING

Bending Oak Techniques *(17 min., sd., b&w, 16 mm., Order No. FN 6734, $30.50, USN)* Demonstrates techniques of bending oak billets of Navy motor launch hulls; presentation of bending machines, procedure prior to bending, cautions to be observed during bending operations, storing of bent billets, and cutting of ribs.

The Blacksmith: Calculating and Bending Rings and Links *(21 min., sd., b&w, 16 mm., Order No. MN 2350-a, $37.00, USN)* Teaches elementary shipsmithing including linear calculation of stock, forming of rings and links, forge welding, and the use of common hand blacksmith's tools.

The Blacksmith: Calculating and Forging a Deck Socket Wrench *(19 min., sd., b&w, 16 mm., Order No. MN 2350-b, $33.75, USN)* Shows the steps taken in forging a deck socket wrench from reading the blueprint and selecting the stock to forging and finishing.

The Coppersmith: Flaring and Reducing *(20 min., sd., b&w, 16 mm., Order No. MN 2346-a, $35.25, USN)* Shows how to flare and reduce small and large tubing, and techniques of annealing, bumping, cleaning, and finishing.

The Coppersmith: Working Out Branches from a Line *(23 min., sd., b&w, 16 mm., Order No. MN 2346-b, $40.50, USN)* Describes cutting, working out, and installation process; marking cutting, raising of the cup to conform with the branch; tack-welding and fitting; and installation of a saddle branch.

Docking with Keel and Bilge Blocks *(15 min., sd., b&w, 16 mm., Order No. MN 2352-b, $27.00, USN)* Explains by animation and demonstrates the procedures for docking from flooding of the dock to final securing.

Establishing Construction Lines, Part I *(17 min., sd., b&w, 16 mm., Order No. MN 2345-a, $30.50, USN)* Shows by animation how to establish five basic lines—base, center, buttock, frame, and water, used in ship construction.

Establishing Construction Lines, Part II *(16 min., sd., b&w, 16 mm., Order No. MN 2345-b, $28.50, USN)* Covers establishment of center, buttock, and water lines for use as reference points. Also shows setting of bulkhead and use of reference lines to locate a foundation.

Fitting and Installing a Section of Pipe Aboard Ship *(20 min., sd., b&w, 16 mm., Order No. MN 2337-d, $35.25, USN)* How to apply flanges, insert bolts, install pipe hangers, weld a fitted template, apply same principles to wooden and mechanical templates, and set up and install female template aboard ship.

Fitting and Installing Packing *(9 min., sd., b&w, 16 mm., Order No. 2341-b, $15.75, USN)* How to fit and install packing in the center section of the cradle to support weight where ship is nearly flat.

Fundamental Lines and Sections *(22 min., sd., b&w, 16 mm., Order No. MN 2334-a, $38.50, USN)* Explains the meaning and purpose of various lines, the division of a ship's structure, and the names and symbols for different parts.

Ground Ways *(21 min., sd., b&w, 16 mm., Order No. MN 2341-c, $37.00, USN)* Demonstrates step-by-step construction or placing of the following: tie timbers, bearer blocks, ground ways timbers, angle brackets, spur shores, grease strips, launching grease, and grease irons.

Hatch Canopy. Part I: Measuring and Drawing *(18 min., sd., b&w, 16 mm., Order No. MN 2343-b, $32.00, USN)* Explains procedures for making rough sketch, taking measurements, and making isometric drawing for a hatch canopy.

Hatch Canopy. Part II: Layout *(22 min., sd., b&w, 16 mm., Order No. MN 2343-c, $38.50, USN)* Illustrates how scale drawing is used to make a floor layout: how canvas is marked and cut from floor layout and prepared for machining.

Hatch Canopy. Part III: Machining and Finishing-Off *(18 min., sd., b&w, 16 mm., Order No. MN 2343-d, $32.00, USN)* Shows rubbing of the edges and machining of the canvas; installing grommets; measuring, cutting, and stretching rope.

Lifting Templates for a Foundation *(23 min., sd., b&w, 16 mm., Order No. MN 2338-a, $40.50, USN)* How to lift a template within the hull of a ship, and transfer the shape of the hull by use of measurements and cardboard.

Making a Hot Bend *(19 min., sd., b&w, 16 mm., Order No. MN 2337-c, $33.75, USN)* Shows by diagrams and demonstration how to select pipe, pack with sand, heat, and bend.

Making a Wire Template *(19 min., sd., b&w, 16 mm., Order No. MN 2337-b, $33.75, USN)* Shows how to draw lay-out measurements with and without blueprints, transfer blueprints, find the radius with a beam compass, and bend a template.

Mechanical Packing Aboard Ship *(30 min., sd., b&w, 16 mm., Order No. MN 2505, $52.00, USN)* Demonstrates how to pack a spiral wound gasket and a steam reciprocating pump rod, re-pack a centrifugal part, and replace packing around a condenser tube.

Milling a Foundation *(23 min., sd., b&w, 16 mm., Order No. MN 2348-c, $40.50, USN)* Demonstrates the set-up and operation of a portable milling machine for milling a foundation.

Piping Fabrication for Shipboard High Temperature Steam Systems: Introduction *(13 min., sd., b&w, 16 mm., Order No. MN 8489-a, $23.75, USN)* Emphasizes the care and skill required for the handling, fabrication, and installation of chrome-molybdenum piping in shipboard high-temperature, high-pressure steam systems.

Piping Fabrication for Shipboard High Temperature Steam Systems: Bending and Installing *(10 min., sd., b&w, 16 mm., Order No. MN 8489-b, $17.50, USN)* Emphasizes the care and skills required in the bending and fabrication phases of working with chrome-molybdenum piping.

Piping Fabrication for Shipboard High Temperature Steam Systems: Welding *(13 min., sd., b&w, 16 mm., Order No. MN 8489-c, $23.75, USN)* Emphasizes the care and skills required in the welding phases or working with chrome-molybdenum piping.

Placing Sliding Ways *(19 min., sd., b&w, 16 mm., Order No. MN 2341-d, $33.75, USN)* Describes step-by-step procedure in placing sliding ways for a stern launching, and follows procedure to the completion of the sliding ways.

Preparation for Docking with Keel and Bilge Blocks *(14 min., sd., b&w, 16 mm., Order No. MN 2352-a, $25.50, USN)* Examines the graving dock and demonstrates the placement of keel and bilge blocks according to the docking plan. Points out the careful planning and double-check of calculations by docking officer and dockmaster to insure safe placement of the ship.

Preparation for Stern Launching, DD445 Class *(25 min., sd., b&w, 16 mm., Order No. MN 2351-a, $43.75, USN)* Covers the operations necessary to prepare a ship for launching, including: constructing ground ways, fitting sliding ways, installing internal shoring, dog shores, and trigger and rigging anchor.

Reciprocating Pump Opening for Inspection *(21 min., sd., b&w, 16 mm., Order No. MN 2348-a, $37.00, USN)* Stresses the importance of care in the disassembly of any type of machinery or engine. Demonstrates, on a vertical simplex reciprocating pump, the proper procedures, marking of parts, use of standard machinist's hand tools, and safety precautions.

Reconditioning a Cylinder with a Portable Boring Bar *(36 min., sd., b&w, 16 mm., Order No. MN 2348-b, $62.00 USN)* Traces a typical boring job to illustrate various checks, adjustments, and alignments required to operate the boring bar; cover types, uses, nomenclature, set-up, and operation of the portable bar while demonstrating the reconditioning of a cylinder.

Removing a Section of Piping Aboard Ship *(13 min., sd., b&w, 16 mm., Order No. MN 2337-a, $23.75, USN)* Explains the purpose of the piping system; shows how to remove a section of pipe aboard ship; and defines outside diameter, pitch diameter, pitch cord, bleeding point, and backing-off.

Ship's Blueprints: Basic *(22 min., sd., b&w, 16 mm., Order No. MN 2335-a, $38.50, USN)* Explains how to identify fundamental structural elements in ship construction by orthographic drawings and symbols, to visualize these drawings in three dimensions, to understand use and function of dotted and hidden lines, and to read a ship's blueprints.

Shipbuilding Skills—Stern Launching—Fore Poppets and Internal Shoring Construction *(26 min., sd., b&w, 16 mm., Order No. MN 2341A, $45.50, USN)* Construction of fore poppet and internal shoring installation of sling plates, crushing blocks and strips, packing timbers, angle brackets, and all sections of internal shoring.

Simple Foundation. Part I: Layout *(28 min., sd., b&w, 16 mm., Order No. MN 2388-b, $48.75, USN)* Explains through animation the layout of a simple foundation, and shows a workman performing the actual operations. Explains how to mark the template with necessary directions.

Simple Foundation. Part II: Duplication and Fabrication *(17 min., sd., b&w, 16 mm., Order No. MN 2338-c, $30.50, USN)* Shows how the layout man develops job from the templates. Depicts fastening template to steel plate, marking plate with center punch or painting billing on steel; shows use of shears, burning torch, cold press, and punch.

Simple Foundation. Part III: Assembly and Installation *(23 min., sd., b&w, 16 mm., Order No. MN 2338-d, $40.50, USN)* Shows tack-welding of rings to side plates, tacking of web plate to both side plates, and production welding of the assembly; demonstates marking location aboard ship, swinging assembly aboard, welding deck and bulkhead after making corrections.

Stern Launching, DD445 Class *(19 min., sd., b&w, 16 mm., Order No. MN 2351-b, $33.75, USN)* Presents an over-all view of the technical operations involved in the stern-type launching of a destroyer.

The Transition Piece: Square to Round Layout and Fabrication *(18 min., sd., b&w, 16 mm., Order No. MN 2339-d, $32.00, USN)* Shows layout of the pattern on a single piece of metal after preliminary steps in making a scale drawing and template. Follows fabrication through forming and bending stages and mucking of the groove.

U.S.S. Forrestal (CVA-59) *(21 min., sd., b&w, 16 mm., Order No. MN 6087, $37.00, USN)* Describes the construction of a modern aircraft carrier from keel laying to actual sea trials and final commissioning.

Vaned Elbow: Layout and Fabrication *(29 min., sd., b&w, 16 mm., Order No MN 2339-a, $50.25, USN)* Shows how to make a vaned elbow for a ship's ventilation system: illustrates development of the rough sketch, parallel lines, templates, elbow and vane sections, and final welding.

Watertight Covers, Part I: Layout and Fabrication *(14 min., sd., b&w, 16 mm., Order No. MN 2339-b, $25.50, USN)* Shows how to construct a type F found watertight cover: the overall fabrication of lid, hinge, collar, gasket and combing; and the complete cover ready for assembly.

Watertight Covers, Part II: Assembly *(15 min., sd., b&w, 16 mm., Order No. MN 2339-c, $27.00, USN)* How to weld and assemble combing, lid and collar, locking device, dogs, hinge, screen, and rubber gasket.

SUBMARINES

Polaris, Blue and Gold *(10 min., sd., color, 16 mm., 1962, Order No. MN 9756, $34.00, USN)* Protrays the Blue and Gold Crews of the U. S. Navy Fleet Ballistic Missile Submarines on patrol in the Atlantic Ocean. Shows life in a typical Polaris submarine.

The Submarine, Part II: Construction *(29 min., sd., b&w, 16 mm., Order No. FN 8024-b, $50.25, USN)* Describes the construction of the modern submarine, including the pressure hull, tanks, and superstructure; and each of the basic systems of the submarine.

The Submarine, Part III: Driving and Surfacing *(12 min., sd., b&w, 16 mm., Order No. MN 8024-c, $22.25, USN)* Discusses methods used by a submarine in submerging, and explains positive, negative, and neutral buoyancy. Presents an evaluation of surfacing.

The Submarine, Part IV: Operating Submerged *(18 min., sd., b&w, 16 mm., Order No. MN 8024-d, $32.00, USN)* Shows the operation of a submarine while submerged, including the use of special ballast tanks, trim tanks, and submarine speed of contract depths. Briefly describes the snorkel system and the operation snorkeling.

Take 'Er Down *(13 min., sd., b&w, 16 mm., Order No. MN 9294, $23.75, USN)* A history of the development of submarines in the U.S. Navy from 1900 to 1954. Includes scenes of the U.S.S. Nautilus, the first nuclear-powered vessel.

NATIONAL SECURITY

CIVIL DEFENSE AND DISASTER

ABC Warfare Defense Ashore: Biological and Chemical Decontamination; Exteriors *(14 min., sd., b&w, 16 mm., Order No. MN 7984-g, $25.50, USN)* Reviews the procedures for treating both gas-contaminated and germ-contaminated outdoor areas, including marked areas, filling decontamination truck and mixing chemicals, treatment of surfaces, hand spraying with DANC, emergency use of bleach, and checking decontamination results.

ABC Warfare Defense Ashore: Biological Warfare Decontamination: Interiors *(6 min., sd., b&w, 16 mm., Order No. MN 7984-f, $11.00, USN)* Illustrates the special procedure for decontaminating interiors in biological warfare, including marking suspected buildings, preparation of interiors, and use of decontaminant fog of formaldehyde solution diluted with methanol.

ABC Warfare Defense Ashore: Biological Warfare Decontamination: Personnel *(10 min., sd., b&w, 16 mm., Order No. MN 7984-e, $17.50, USN)* Shows the use of masks and the decontamination facilities of permanent and portable shelters and of outdoor temporary cleansing stations. Details the timetable shower required.

ABC Warfare Defense Ashore: Biological Warfare Decontamination; Personal Equipment *(8 min., sd., b&w, 16 mm., Order No. MN 7984-h, $14.75, USN)* Describes the decontamination of clothing and personal gear on a large scale with ethylene oxide and carboxide, small scale use of chlorine bleaching solution and decontamination of gas masks and cannisters.

ABC Warfare Defense Ashore: Chemical Warfare Decontamination; Personnel *(13 min., sd., b&w, 16 mm, Order No. MN 7984-i, $23.75, USN)* Stresses the importance of gas masks as a first line of defense against blister and nerve gases, and the use of ointments and atropine in aid kits. Illustrates permanent, portable, and outdoor personal decontamination facilities and the timetable shower required.

ABC Warfare Defense Ashore: Detection of Contaminated Areas in Biological and Chemical Warfare *(14 min., sd., b&w, 16 mm., Order No. MN 7984-c, $25.50, USN)* Shows procedure for detection of areas contaminated by chemical warfare agents, particularly blister gases, and the use of a biological warfare field sampling kit for detection of germs.

ABC Warfare Defense Ashore: Protective Clothing for Decontamination Personnel *(12 min., sd., b&w, 16 mm., Order No. MN 7984-d, $22.25, USN)* Illustrates in detail the procedure for dressing in the special protective clothing required for personnel assigned to detection, decontamination, and cleanup work in the event of atomic, biological, and chemical warfare attacks.

ABC Warfare Defense Ashore: Rescue Operations; Lifting Devices, Shoring *(17 min., sd., b&w, 16 mm., Order No. 7984-k, $30.50, USN)* Shows proper rescue operations and the use of machine and hand tools in the handling of casualties, broken gas and water lines, electrical conductors, damaged buildings, and rubble. Demonstrates the construction and application of various kinds of shores.

ABC Warfare Defense Ashore: Rescue Operations; Rigging, Breaching Walls, Tunneling *(18 min., sd., b&w, 16 mm., Order No. MN 7984-L, $32.00, USN)* Shows the construction and use of various types of rigging, and demonstrates how to breach walls and construct a tunnel in typical rescue operations.

About Fallout *(24 min., sd., color, 16 mm., 1963, Order No. DOD-CD 3-220, $81.50, OCD)* About fallout is the most definitive film on this phenomenon of the Nuclear Age now available to the general public. The film is designed to dispel many of the common myths and fallacies now surrounding the subject in the public mind and to present the facts, as clearly and simply as possible, in everyday layman's terms. Based on the Government's many intensive scientific studies, it uses both animation and live action to illustrate the basic nature of fallout radiation, its effects on the cells of the body, what it would do to food and water after a nuclear attack, and what simple common-sense steps can be taken to guard against its dangers. Cleared for TV.

The A+School *(8 min., sd., color, 16 mm., 1966, Order No. DOD-CD 5-242, $29.25, OCD)* The A+School features the South Salem Elementary School in Salem, Va. The school is unusual for its circular design as well as the added feature of fallout protection. The film explains through animation why and how it was done. It is the first motion picture by OCD to deal with slanting techniques in the design and construction of buildings.

Briefly, About Fallout *(8 1/2 min., sd., color, 16 mm., 1967, Order No. DOD-CD 3-256, $29.25, OCD)* This is a highly condensed version of ABOUT FALLOUT, the 24 minute picture which for some years has ranked as the leading public information film on this subject. BRIEFLY, ABOUT FALLOUT covers the highlights of the major film, explaining basic facts about the nature of radioactive fallout and our three principal weapons of defense against it. Cleared for TV.

Cummings City: Military Assistance in Civil Disaster *(35 min., sd., b&w, 16 mm., Order No. AFIF 89, $60.25, DOD)* Describes the assistance given by the armed services when natural disasters strike civilian communities in continental United States, using a hypothetical town, Cummings City.

The Day That Made a Difference *(27 min., sd., color, 16 mm., 1964, Order No. DOD-CD 38-226, $91.25, OCD)* THE DAY THAT MADE A DIFFERENCE documents the 1-day shelter stocking efforts of New Orleans and San Francisco. The stories of two complete stocking operations and the public spirited people who contributed their time are told against the varied and colorful background of these important cities. Cleared for TV.

Day Without End—Duties of a Civil Defense Director *(18 min., sd., b&w, 16 mm., 1965, Order No. DOD-20-225, $32.00, OCD)* Portrays a day in the life of a Civil Defense Director of a small American city, dramatizing the variety of duties that must be performed to plan and manage Civil Defense effectively.

Disaster Aid: Public Health Aspects *(11 min., sd., b&w, 16 mm., Order No. M-198, $19.25, NMAC)* Explains the health problems created by natural disasters and the methods used to solve these problems, using as an example a flood, and the role of local, state, and federal health agencies in combating the resultant public health dangers.

Disaster Feeding *(30 min., sd., b&w, 16 mm., Order No. TF 10-2846, $52.00, USA)* Purpose, preparation and execution of disaster feed-plan Facilities propagation Explanation of ionosphere Effects on long-range transmission of radio messages.

The Face of Disaster *(10 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 20-239, $17.50, OCD)* The United States suffers some 300 disasters a year—fire, flood, tornado, hurricane, even earthquake. This short film highlights some of our recent major natural disasters—the great Alaskan quake of 1964, the floods of 1965, the devastation wrought on Palm Sunday when 37 tornadoes boiled through the Middle West. It emphasizes the role of community welfare services in helping to meet these emergencies, and will be particularly useful to CD directors when making speeches or presentations before such organizations. Cleared for TV.

The Five Days of Betsy *(11 1/2 min., sd., b&w, 16 mm., 1966, Order No. DOD-CD 20-250, $21.75, OCD)* This is a condensed version of the 29-minute motion picture "A Hurricane Called Betsy", but still retains most of the major highlights of the longer film. Prepared in co-operation with the U.S. Commissioner of Welfare, Department of Health, Education, and Welfare, it is designed primarily for use in OCD/DHEW exhibit units. However, the 11 1/2 minute length is also an advantage for television scheduling and the other public presentations. Cleared for TV.

A Hurricane Called Betsy *(29 min., sd., b&w, 16 mm., 1966, Order No. DOD-CD 20-251, $50.25, OCD)* In September 1965, the most devastating, unpredictable hurricane of the decade swept out of the Caribbean on a 3,000-mile trip, leaving a trail of destruction through the Bahamas, Miami, the Florida Keys, along the gulf coast, New Orleans and Baton Rouge. Before her finish, "Betsy" had forced the astronauts in Gemini Five to cut their orbit short, left thousands homeless and some 80 dead, sent a 16-foot tidal surge roaring across the Delta and into New Orleans, and caused a billion dollars damage in Louisiana alone. A HURRICANE CALLED BETSY tells the story of the storm, the people who fought it, their victories and their losses, in some of the finest on-the-scene coverage of natural disaster ever filmed. Cleared for TV.

In Carla's Wake *(28 min., sd., color, 16 mm., $175.00, USCE)* Aftermath of Hurricane Carla (September, 1961) that left nearly one-half billion dollars of property damages on the Texas Coast. Portrays the role of the Corps of Engineers in the emergency work following the hurricane and the "come-back" made by people in the 14 counties declared a disaster area by the President. Emphasizes the need for co-operative efforts as local protection projects get under way and plans for large-scale regional protection are being considered.

Individual and Family Actions on Warning *(18 min., sd., color, 16 mm., 1965, Order No. DOD-20-227, $61.75, OCD)* A representative American family discusses the need for survival plans in the event of a nuclear attack, considering their individual situations.

It Happened in Texas (Hurricane Beulah '67) *(9 min., sd., color, 16 mm., 1967, Order No. DOD-20-268, $31.00, OCD)* Documents the September 1967 disaster in southern Texas, brought on by Hurricane Beulah and the tornadoes that followed in her wake.

Local Civil Defense *(16 min., sd., b&w, 16 mm., 1965, Order No. DOD-20-224, $28.50, OCD)* Describes the objectives and considerations involved in local civil defense planning and operations.

Management of Mass Casualties—Part II—Burns *(15 min., sd., color, 16 mm., Order No. TF 8-2713, $51.75, USA)* Describes the operating principles in the management of burn casualties, under nuclear disaster conditions, where a disparity exists between medical requirements and available medical facilities. Salient teaching points cover: self-care, electrolyte therapy, transfusion, exposure method of treatment, treatment of radiation symptoms, and surgical techniques employed in the excision of burned tissue.

Management of Mass Casualties—Part VI—Sorting *(13 min., sd., color, 16 mm., 1959, Order No. TF 8-2675, $45.25, USA)* Discusses problems associated with the identification of various types of casualties likely to be encountered in nuclear weapon warfare, where the medical personnel and facilities available are inadequate to meet the medical requirements. Describes the four major classifications into which the injured will be sorted for treatment—minimal, immediate, delayed, and expectant treatment.

Memorandum to Industry *(31 min., sd., color, 16 mm., 1966, Order No. DOD-CD 20-243, $104.25, OCD)* This film is the major OCD film dealing with the civil defense efforts of U.S. industry. The film shows not only what industry should do, but what industry is doing in planning its civil defense preparations. You learn what various industries have accomplished to provide fallout shelter for employees and the public, to assure continuity of company management in the event of an attack on the United States. Cleared for TV.

Mutual Aid—The "Us" in Industry *(25 1/2 min., sd., color, 16 mm., 1965, Order No. DOD-CD 20-237, $86.50, OCD)* This film explains the steps and procedure in the organizing and conducting of an industrial mutual aid association and its important civil defense function. The Linden Industrial Mutual Aid Council (LIMAC) of Linden, N.J., is used as an example of major industries working together—Du Pont, General Motors, Esso, Cities Service, Merck, etc.—to safeguard their own and the community's welfare. Cleared for TV.

A Night on Jackrabbit Mesa *(23 min., sd., color, 16 mm., 1967, Order No. SFP 1392, $78.25, USAF)* Shows civil officials what to do in case of off base military aircraft accidents. Includes notifying military authorities, barring spectators from area and organizing search parties to find dead or injured crewmen. Also stresses co-operation of newspapers in withholding premature information. Explains how souvenir hunters can hamper investigating teams. Cleared for TV.

Occupying a Public Shelter *(24 min., sd., b&w, 16 mm., 1966, Order No. DOD-20-234, $42.25, OCD)* Depicts group life in a simulated shelter, indicating some of the situations which may be expected and the effects on shelter occupants.

Once to Make Ready *(8 min., sd., color, 16 mm., 1967, Order No. DOD-CD 5-258, $27.75, OCD)* ONCE TO MAKE READY is designed to explain to the average citizen what it can mean to him personally when his local government undertakes a CSP Program to provide the best available protection for all its citizens. Filmed in and around a city that has known disaster through its two famous floods, preparing now against another kind of potential danger, the chance of enemy nuclear attack. Cleared for TV.

One Week in October *(29 min., sd., b&w, 16 mm., Order No. DOD-CD 20-223, $50.25, OCD)* Narrated by Gary Merrill. ONE WEEK IN OCTOBER tells the story of the Cuban missile crisis; the civil and military buildup during this most critical period of our country's history. The motion picture opens with aerial reconnaissance photographs of Cuba taken from U.S. jets. Scenes that follow feature the best of the news coverage filmed during those crucial weeks by camera crews of the U.S. military services, newsreels and television stations. Cleared for TV.

Operation Cue (Revision 1964) *(14 min., sd., color, 16 mm., 1964, Order No. DOD-CD 20-232, $48.50, OCD)* This is a 1964 revision of the OCD motion picture OPERATION CUE—REVISED, released in 1958. The revised film points out the contrast between the Nevada test in 1955 and present nuclear devices, then continues as a documentary report on the Operation Cue exercise of 1955 as told from the viewpoint of a newspaperwoman who was invited as an observer. The picture features unusual slow motion photography of the effects of blast on houses, radio towers, etc. Cleared for TV.

Operation Noah *(29 min., sd., b&w, 16 mm., Order No. MF 48-8615, $50.25, USA)* Describes the work of the U.S. armed services, particularly the Army Engineers, in the rehabilitation of the regions in northeastern United States hit by flash floods in the summer of 1955. Shows channel clearance; clearing of the bridge crossings; erection of Bailey bridges; restoration of water mains; providing of drinking water; handling of food contamination; cleaning of stores, houses, and streets; and road and building repair.

Operation Under Fallout *(28 min., sd., color, 16 mm., 1963, Order No. TF 5528, $94.50, USAF)* Portrays the pre-planning, organization, training and rehearsals required to insure proper performance of base personnel and their dependents in event of nuclear attack. Demonstrates the yearly, realistic 12-hour exercise directed by higher headquarters for testing each base's disaster control and recovery operation procedures. Cleared for TV.

Port Preparedness *(23 min., sd., color, 16 mm., 1967, Order No. DOD-CD 55-257, $78.25, OCD)* Few responsibilities are more important to our national survival than the organized preparedness of American seaports to resume emergency operations following a major disaster, whether from natural causes or enemy attack. The U.S. Maritime Commission, in co-operation with OCD, has prepared this film to show how port managements from Coast to Coast and from the Great Lakes to the Gulf are now making preparations to meet emergencies. Cleared for TV.

Post-Attack World *(14 1/2 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 20-231, $25.50, OCD)* POST-ATTACK WORLD challenges the theory that life would not be worth living after a nuclear attack. Authorities explain the kind of world that could exist after nuclear attack, and what is being done to meet the problems of the post-attack period and recovery. Questions about contamination of food, the balance of nature, industry, and continuation of government itself are discussed. Cleared for TV.

A Primer for Survival, a Fact of Life *(14 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 20-228, $25.50, OCD)* A presentation of the philosophy of civil defense. The program refutes the arguments against civil defense, and presents reasons why a civil defense program is needed in any foreseeable future. Cleared for TV.

A Primer for Survival, Fallout *(14 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 20-229, $25.50, OCD)* FALLOUT gives the facts about fallout, why it is a threat and what can be done to protect against it. It answers questions about fallout asked by the public and shows fallout shelters are the key to survival. Cleared for TV.

The Protected School *(5 1/2 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 5-235 $10.25, OCD)* THE PROTECTED SCHOOL tells the story of the United Consolidated High School built in Webb County, Tex., about the school board and architects that planned it, and about the teachers, administrators, and students who work in this fallout-protected schoolhouse. The film emphasizes the many advantages in this type of two-story construction and the practical results that were achieved in Webb County. This 5 1/2 minute film is a condensed version of the longer OCD motion picture, "Texas Has A Brand New School". It is featured in OCD "Science for Survival" exhibits. Cleared for TV.

Radiological Defense *(28 min., sd., color, 16 mm., 1961, Order No. DOD-CD 3-130, $94.50, OCD)* In effectively presenting the menace of radioactive fallout, this film describes how fallout is produced and explains its effects on people, on livestock, and on crops. The Nation's radiological defense program at all levels of government is likewise described in some detail. Throughout the picture, fallout shelters are stressed as the best means to protect the greatest number people in the event of nuclear war. Cleared for TV.

Shelter on a Quiet Street *(24 1/2 min., sd., color, 16 mm., 1963, Order No. DOD-CD 5-221, $83.25, OCD)* This film is designed not only for those living in suburban or rural areas too far removed from the nearest community shelter but also for those in urban sections who, for reasons of personal preference or convenience, would rather rely on a family shelter for fallout protection. SHELTER ON A QUIET STREET shows how the individual family shelter fits into the overall National Shelter Plan, and tells how and why one American family decided to build a fallout shelter in the basement of their home. Actual construction of the basement shelter is shown in step-by-step detail. Cleared for TV.

Slanting *(9 min., sd., color, 16 mm., 1967, Order No. DOD-CD 5-259, $31.00, OCD)* This film uses complex animation and striking still photography to illustrate the "slanting" techniques being used by many architects to incorporate fallout shielding in the new buildings they're now designing. Its purpose is to encourage private owners and builders, school boards and educators, and local government officials to include fallout shelters when planning new construction, and to inform them of methods which give this added protection at little or no extra cost. Cleared for TV.

The Sword and the Shield *(13 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 20-230, $23.75, OCD)* THE SWORD AND THE SHIELD reviews the OCD fallout shelter program, the types of shielding that are effective, the National Shelter Survey, and the supplies that go into a stocked shelter. Cleared for TV.

Texas Has a Brand New School *(20 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 5-236, $35.25, OCD)* The times have changed—the needs have changed. That is the reason behind the United Independent High School near Laredo, Tex. Using the voices of the school board, parents, the architect, teachers, administrators and students, this film shows the many advantages in the two-story construction that makes the United High School an attractive functional school and fallout shelter for the entire community as well. Cleared for TV.

Though the Earth Be Moved, The Alaskan Earthquake *(45 min., sd., b&w, 16 mm., 1965, Order No. DOD-CD 20-238, $76.50, OCD)* The Good Friday earthquake of 1964 struck Alaska with a force equal to 10 million atomic bombs of the size that leveled Hiroshima. It took 115 lives, cost more than half a billion in damage, left whole cities helpless and thousands homeless in the wake of shock, fire and seismic sea wave. Cleared for TV.

Town of the Times *(26 min., sd., color, 16 mm., 1963, Order No. DOD-CD 20-222, $88.00, OCD)* This dramatic film demonstrates the arguments pro and con that come up when a town is faced with the civil defense question: the resistance, the false information, the do-nothing attitudes. One day this town was without an opinion either way on civil defense programs and the next day it was split over community shelters in the schools. TOWN OF THE TIMES also demonstrates the results that can be achieved through concerted, directed community action behind such a project when a community is properly motivated. Cleared for TV.

Your Army in Disaster Relief *(18 min., sd., b&w, 16 mm., Order No. MF 19-7546, $32.00, USA)* Shows how the Army aids stricken communities; its work following the explosion at Texas City, and in snowbound and flooded areas.

COMMUNISM

The Challenge of Ideas *(31 min., sd., b&w, 16 mm., Order No. AFIF 98, $53.50, DOD)* Analyzes the basic ideological differences between "the American way" and the Communist State; describes the objectives and techniques used by the USSR to influence the peoples of the world; and emphasizes the importance of keeping the United States strong spiritually and morally.

Communism *(32 min., sd., b&w, 16 mm., Order No. AFIF 5, $55.25, DOD)* Presents a brief history of Communism; its totalitarian characteristics; and how communists operate in the United States.

Communist Blueprint for Conquest *(33 min., sd., b&w, 16 mm., Order No. AFIF 76, $56.75, DOD)* Explains the methods and techniques used by the Communists to seize power in a country. Shows how the party gains control of local and central governments of a country; how it moves against other political parties, land owners, big business, the middle class, professional groups, workers, and churches; and describes the party attitude towards the individual in relation to the state.

Communist Europe *(19 min., sd., b&w, 16 mm., Order No. AFIF 107, $33.75, DOD)* A study of the Communist satellite countries of Europe, appraising their cultural, economic, and political status; and their vital significance in the power struggle between the USSR and the West.

Communist Target—Youth *(34 min., sd., b&w, 16 mm., 1962, Order No. AFIF 116, $58.75, DOD)* Explains techniques and methods used by communists to gain and wield control over young people of the world. Techniques used to indoctrinate, use of the USSR, Red China, and satellite nations in the concept of materialism are described. The communist in action is reviewed in uncommitted countries, in areas of unrest, and in the U.S.

The Communist Weapon of Allure *(36 min., sd., b&w, 16 mm., Order No. AFIF 75, $62.00,DOD)* Dr. Warren B. Walsh, professor of Russian history at the Maxwell Graduate School of Citizenship and Public Affairs, Syracuse University, explains the methods used by the Communists to gain converts.

Freedom and You *(53 min., sd., b&w, 16 mm., Order No. AFIF 120, $92.50, DOD)* Tells a story about a typical American family and some of their reactions to duties and obligations that are part of the democratic way of life. Describes a nightmarish dream about life under communism which awakens the husband to the fact that his democratic responsibilities are a pleasure.

The Road to the Wall *(34 min., sd., b&w, 16 mm., Order No. AFIF 119, $58.75, DOD)* Appraises Communist expansion in Eastern Europe and discusses its implications on the international scene. Describes the intrenchment of Marxian philosophy throughout the USSR from the time of the Russian Revolution to World War II. Reviews USSR involvement in the war and subsequent political gains. Illustrates the Communist blueprint for conquest through events in China, Czechoslovakia, Hungary, Cuba, and Berlin. Emphasizes the threat of Communist objectives to the United States and the free world, stressing the urgency for economic aid and international cooperation.

The Third Challenge *(45 min., sd., color, 16 mm., 1963, Order No. AFIF 123, $153.00, DOD)* Revolutions, insurgency, subversion constitute the unconventional warfare of the third challenge which the U.S. must fight in the far-flung reaches of the globe.

DEFENSE SYSTEMS

Air Guard on the Go *(22 min., sd., color, 16 mm., 1965, Order No. SFP 1378, $74.75, USAF)* Pictures deployment of 22 Air National Guard reserve units to Europe for summer training. Covers emergency signaling procedures, pre-deployment briefings, air refueling operations, and TAC's monitoring of the entire operation. Points out the readiness capability of the Guard and its ability to provide its own support equipment. Cleared for TV.

The Air Reserve Forces *(13 min., sd., color, 16 mm., 1959, Order No. SFP 620, $45.25, USAF)* Describes mission, training, and combat readiness of the Air Force Reserves and Air National Guard. Cleared for TV.

Alert in the Pacific *(15 min., sd., color, 16 mm., 1961, Order No. SFP 626, $51.75, USAF)* Describes the growing strength of Russian air power and explains how PACAF (Pacific Air Forces) stands ready to strike the first defensive blow. Cleared for TV.

Aluetian Manning *(30 min., sd., color, 16 mm., 1962, Order No. SFP 1105, $101.00, USAF)* The amazing story of the men who operate the radar outposts along the Aleutians, a forbidding but strategic chain of islands. Narrator is the late Dick Powell.

Aleutian Skywatch *(26 min., sd., color, 16 mm., 1961, Order No. SFP 1002, $88.00, USAF)* Tells the story of the Aleutian Dewline, a network of radar outposts stretching across the Aleutian Islands. Shows how these remote but strategically important outposts tie in our early warning defense perimeter to complete the "steel ring." Cleared for TV.

Cold War Callup: The Navy's Selected Reserve *(28 min., sd., b&w, 16 mm., 1962, Order No. MN 9783, $48.75, USN)* Describes the U.S. Naval Selected reserve, its training prior to recall to active status in October 1961 and some of its activities while on active duty from October 1961 to August 1962.

Combat Ready *(26 min., sd., b&w, 16 mm., 1964, Order No. SFP 1224, $45.50, USAF)* Portrays the story of Strategic Air Command's Operation Readiness Inspections (ORI). Shows how the Inspector General conducts ORI's on site and with no advance notice to determine the combat readiness of the unit's men, aircraft and missiles. Cleared for TV.

Data for Service Test Evaluation of Army Air Defense Systems *(14 min., sd., color, 16 mm., Order No. MF 45-9556, $48.50, USA)* Depicts the instrumentation and techniques used by the U.S. Army Air Defense Board to obtain and reduce data from service tests conducted to evaluate the performance of all types of air defense weapons. Particular emphasis is placed on data receiving and recording instrumentation, data reducing facilities, data output media, and the importance of test evaluation data for the development and improvement of air defense systems.

Dew Line *(55 1/2 min., sd., color, 16 mm., 1957, Order NO. SFP 570, $187.00, USAF)* Tells the story of the DEW Line, a network of radar outposts stretching 3,000 miles across America's arctic rooftop.

Exercise Desert Strike *(21 min., sd., color, 16 mm., 1965, Order No. SFP 1391, $71.50, USAF)* Documents Tactical Air Command's participation in Desert Strike, an Army-Air Force exercise which simulates a conflict between two fictional countries. Shows how the conflict escalates from conventional to nuclear warfare. Depicts reconnaissance, interdiction, air support, and logistical and assault airlift activities. Cleared for TV.

Face of a Nation *(28 min., sd., color, 16 mm., Order No. MN 10228, $94.50, USN)* Illustrates the role Navy men on attack carriers play in keeping the peace around the world.

First on Target *(25 min., sd., color, 16 mm., 1965, Order No. SFP 1165, $84.75, USAF)* Reviews capabilities and mission of Tactical Air Command. Depicts typical overseas deployment operations of a TAC squadron. Points out TAC's capability to meet world-wide military commitments on short notice. Cleared for TV. (In continental U.S. only).

Fleets in Being *(28 min., sd., color, 16 mm., Order No. MN 10468A, $94.50, USN)* The make-up and mission of the U.S. Navy, its threat to enemy powers, naval mission areas and fleet deployment.

Flying Soldiers *(30 min., sd., b&w, 16 mm., Order No. MF 46-8998, $52.00, USA)* Explains the purpose and application of the new concept of Army tactical mobility through Army aviation; reviews the use and capabilities of the helicopter and fixed-wing aircraft; and shows the techniques employed to paradrop supplies, lay wire, and transport missiles and launching equipment.

Force in Readiness *(28 min., sd., color, 16 mm., 1961, Order No. MH-9552, $94.50, USN)* Shows the Navy-Marine Corps team in operation, featuring the value of trained manpower, while pointing up the many modern weapons available to the team.

Forces in Reserve *(28 min., sd., color, 16 mm., 1963, Order No. SFP 1127, $94.50, USAF)* Portrays role of the U.S. Air Reserve forces in their significant contributions to maintenance of peace in the free world.

Guard of the Sky: The NORAD Story *(14 1/2 min., sd., color, 16 mm., 1959, Order No. SFP 580, $50.00, USAF)* NORAD, Our North American Air Defense, is our greatest insurance against the devastating effects of a sneak air attack. An integrated command reporting to Washington and Ottawa, NORAD stands ready 24 hours hours a day, 365 days a year, to defend us from a would-be aggressor.

Indian River *(28 min., sd., color, 16 mm., 1964, Order No. SFP 1352, $94.50, USAF)* Documents a joint Air Force-Army exercise to evaluate effectiveness of combat divisions teamed with TAC units and to find means of improving air support of ground forces. Focuses on the five functional areas of joint operations: command and control, aerial reconnaissance, air assault, air logistics, and close air support. Cleared for TV.

Introduction to Army Air Defense Systems *(23 min., sd., color, 16 mm., 1966, Order No. TF 44-3687, $78.25, USA)* An introduction to U.S. Army Air Defense Systems currently operational and a look into future air defense developments.

Logistic Support Management for Advanced Weapons *(20 min., sd., color, 16 mm., 1960, Order No. SFP 669, $68.25, USAF)* Explains the mission of a ballistic missile squadron and the components which make up the weapons system. Shows how logistic support management provides prompt and accurate data and discusses the vital part played by the Electronic Data Processing Center. Cleared for TV.

Man and the FBM *(28 min., sd., color, 16 mm., Order No. MN 9400-b, $94.50, USN)* Shows the fleet ballistic missile submarine and discusses the recruitment and training of the personnel who will operate the United States Navy's newest and most formidable nuclear weapons system. Includes scenes of the first underwater launching of the Polaris missile by submarine.

Marines and Missiles *(19 min., sd., color, 16 mm., 1966, Order No. MH 9846, $65.00, USMC)* The training and state of readiness of

Marines in the Marine Corps Hawk Missile Units. Stresses importance of the individual Marine.

Mats World-Wide Mission *(38 min., sd., color, 16 mm., 1965, Order No. SFP 1323, $127.25, USAF)* Reviews mission, organization, and facilities. On-site scenes present command's capability to airlift food, medicine and aid to disaster areas and to transport troops and equipment for military maneuvers and international crises. Cleared for TV.

Mine Forces in Action *(14 min., sd., color, 16 mm., 1957, Order No. MN 8534, $48.50, USN)* The roles and missions of mine laying and mine countermeasures and their strategic significance.

Missile Logistics *(26 min., sd., color, 16 mm., Order No. SFP 496, $88.00, USAF)* Shows how the Air Materiel Command provides the logistical "know-how" that gets and keeps its missiles ready to meet any eventuality. Gen. Edwin W. Rawlings, AMC Commander, introduces the film with an explanation of the changes taking place within our defense picture and the importance of preparedness in meeting the challenge of the missile age.

Missiles of the Navy *(19 min., sd., color, 16 mm., Order No. MN 8848, $65.00, USN)* Describes the task of designing and producing missiles to fulfill the unique requirements of the Navy.

The Pacific Missile Range *(14 min., sd., color, 16 mm., Order No. MN 8879, $48.50, USN)* Discusses the operational facilities, concepts, and capabilities of the Pacific missile range at Point Mugu and Point Arguello, California.

Mr. Push-A-Button *(28 min., sd., color, 16 mm., Order No. MN 9483, $94.50, USN)* This film's objectives are to show the importance of the individual man and of the crews of ships in this day of automatic equipment and so-called "push-button" warfare. Man has developed this technology, men must operate it and if this armada is to be for the good of mankind, its men must be dedicated.

NATO Seapower for Peace *(28 min., sd., b&w, 16 mm., Order No. MN 8546, $48.75, USN)* Reviews the activities and functions of SACLANT (Supreme Allied Command Atlantic) and its capabilities for the defense of NATO (North Atlantic Treaty Organization).

Operation Solidarity *(28 min., sd., b&w, 16 mm., 1961, Order No. MF 20-9364, $48.75, USA)* Describes how the Americas train, study, and work together for mutual hemispheric defense.

Organization: Key to Air Power *(17 min., sd., color, 16 mm., 1957, Order No. SFP 407, $58.50, USAF)* Explains the basic principles of organization through application to various types of Air Force installations and activities, and discusses organizational principles as they concern ARDC research centers and global-wide detachments of communications, weather, security, and Air Rescue Service units. Cleared for TV.

Pacific Frontier *(28 1/2 min., sd., color, 16 mm., 1965, Order No. MN 9606, $96.25, USN)* Depicts naval operations throughout the Pacific area. This film, narrated by Alexander Scourvy, shows every aspect of Pacific and SEVENTH Fleet Operations from ASW to goodwill activities ashore and includes Navy activity in Vietnam. The film contains excellent photography and a fine original music score.

Polaris To Poseidon *(14 1/2 min., sd., color, 16 mm., 1966, Order No. MN 9442, $50.00, USN)* A colorful story of one of the Navy's major contributions to world peace . . . the Polaris missile submarine and the men who operate her. You're taken on a quick trip to see the men train to be Polaris Submariners, then into the submarine itself with the crew for a practice launch with all the tension of the real thing. The film is an insight to what makes the man and his powerful machine tick.

The Quiet Warrior *(28 min., sd., color, 16 mm., 1968, Order No. MN 10552, $94.50, USN)* The story of a Naval Air Reserve Squadron and how these reservist-citizens keep in readiness by training on weekends.

Ready the Marine Corps Reserve *(14 min., sd., b&w, 16 mm., Order No. MH 9670, $25.50, USN)* How continued readiness is maintained in the Marine Corps Reserve by year-round realistic training.

The RBS Express *(19 min., sd., color, 16 mm., 1965, Order No. SFP 1324, $65.00, USAF)* Depicts operation of Strategic Air Command mobile radar bomb scoring (RBS) trains. Reviews site selection and preparation. Pictures crew accommodations and community relations. Cleared for TV.

Reserve Fleet Activation, Introduction *(14 min., sd., b&w, 16 mm., Order No. MN 6725-a, $25.50, USN)* An overall view of the procedure for activation of a U.S. Navy ship using a destroyer as an example. Shows the organization of the activation instruction (A/I) team and the activation details (A/D) team.

Reserve Forces in the Military Airlift Command *(20 min., sd., color, 16 mm., 1966, Order No. SFP 1271, $68.25, USAF)* Depicts varied training activities of the Air National Guard and Air Force reserve units assigned to MAC. Pictures their duties as air freight and passenger specialists, air crew members, aero-medical personnel, flight mechanics, pararescue men, and weather observers and forecasters. Cleared for TV.

SAC Command Post *(20 min., sd., color, 16 mm., 1966, Order No SFP 1236, $68.25, USAF)* Pictures physical characteristics of the Strategic Air Command's air defense and communications network. Points out the command post's control over SAC operations during peacetime and in event of enemy air attack. Cleared for TV.

SAC Film Report, No. 3. April 1961 *(14 min., sd., color, 16 mm., Order No. FR 142, $48.50, USAF)* Presents a report on the operation and facilities of SAC's (Strategic Air Command) underground command post at Offutt Air Force Base, Nebraska. Shows how SAC exercises unerring command and flawless control over its world-wide deterrent force of missiles and aircraft.

SAC Numbered Air Forces—This is the 8th Air Force *(13 min., sd., color, 16 mm., 1967, Order No. SFP 1475a, $45.25, USAF)* Portrays mission of the 8th Air Force, a major arm of the Strategic Air Command. Reviews missile and aircraft inventory of the organization. Shows readiness of its personnel and equipment with footage of Minuteman launching capabilities and around-the-clock airborne operations. Also depicts testing of SAC's bombing skills through annual competitions. Cleared for TV.

Seapower for Freedom *(29 min., sd., b&w, 16 mm., Order No. MN 7838, $50.25, USN)* Explains the formation, composition, and command relationships of SCALANT (Office of Supreme Allied Commander, Atlantic) and shows a typical joint exercise.

Seapower—Plymouth Rock to Polaris *(28 min., sd., color, 16 mm., 1965, $94.50, USN)* Shows the history and growth of American naval power and its importance.

Security Through Seapower *(10 min., sd., color, 16 mm., Order No. MN 8864, $34.00, USN)* Depicts present naval capabilities by showing attack carrier, operations, missile launching aircraft, air to air refueling by R3Y, missile launching submarine, nuclear powered submarine, guided missile cruiser, and some ASW weapons.

Shield Against Invasion *(14 min., sd., color, 16 mm., Order No. SFP 623, $48.50, USAF)* Emphasizes the necessity of constantly evaluating the effectiveness of our aircraft and weapons and shows how these evaluations are accomplished.

Shield of Freedom *(28 min., sd., color, 16 mm., 1963, Order No. SFP 1099, $94.50, USAF)* Portrays Air Defense Command's dominant role in organizing, training and providing aero-space defense forces to NORAD. Pictures magnitude of this Command's mission of detection, identification, interception, and destruction of manned bomber or missile attack on the North American continent. Raymond Massey is narrator. Cleared for TV.

Should the Day Ever Come *(26 min., sd., color, 16 mm., 1967, $98.00, USCG)* The camera follows Coast Guard Reservists as they develop and maintain the skills required to fulfill the missions imposed on the Reserve to meet mobilization assignments—Should the Day Ever Come. In classrooms, in harbors, aboard ships, planes and stations Reservists test their skills and readiness during annual active duty for training periods as they take part in actual Port Security, Search and Rescue, Merchant Marine Safety and many other operations. Cleared for TV.

Silent Sentinel *(14 min., sd., color, 16 mm., Order No. MN 9439, $48.50, USN)* Explains the basic concept of the fleet ballistic missile program and shows all the necessary steps which the Navy must go through to make the Polaris missile operational.

Sonic Boom—Thunder from the Blue Skies *(14 min., sd., color, 16 mm., 1964, Order No. SFP 1215, $48.50, USAF)* Describes phenomena of shock waves which produce sonic booms. Relates national security to need for military aircraft to make supersonic practice runs over metropolitan areas. Shows how minimum altitude restrictions, scientific research, and re-design of aircraft are working to reduce intensity of sonic booms. Tells how and where to report damage. Eddie Albert is narrator. Cleared for TV.

Strategy for Peace *(28 min., sd., b&w, 16 mm., 1965, Order No. SFP 1243, $48.75, USAF)* Portrays mission of Strategic Air Command as a "force for peace." Pictures SAC'S role in international crises, such as the Cuban missile buildup. Stresses man as the most important element in SAC'S arsenal of deterrent strength. Points out flexibility of manned systems and explains need for manned systems to deter any future threat from space. Cleared for TV.

The Strength of SAC *(29 min., sd., b&w, 16 mm., 1966, Order No. SFP 1448, $50.25, USAF)* Depicts constant readiness of Strategic Air Command's people, bombers and missiles to defend the country. Portrays around-the-clock operations while air and ground crews, missilemen, and maintenance people tell how they carry out their important missions. Pictures command and control communications, air re-fueling, reconnaissance, and nuclear safety activities. Stresses professionalism and reliability of SAC'S people. Cleared for TV.

The Submariners *(28 min., sd., color, 16 mm., Order No. MN 10227, $94.50, USN)* Story of the men who qualify to operate the modern nuclear attack submarines; their specialized skills, duties, and responsibilities which keep them prepared to battle another submarine, anytime, under any condition.

Tactical Air—A Force for Peace *(17 min., sd., color, 16 mm., 1961, Order No. SFP 1096, $58.50, USAF)* Portrays mission of the Tactical Air Command. Shows how this rugged organization stands ready to help check aggression in over 40 nations allied to our country under various treaty alliances. Also shows how TAC maintains a top reserve component through exercises and maneuvers. Cleared for TV.

Trained and Ready *(13 min., sd., b&w, 16 mm., 1957, Order No. SFP 457, $23.75, USAF)* United States Air Force reservists demonstrate their efficiency as they complete "Operation 16 Tons" without incident or accident. Cleared for TV.

The United States Strike Command *(20 min., sd., color, 16 mm., 1967, Order No. AFIF 164, $68.25, DOD)* Describes the objectives of the USSTRICOM, America's composite back-up force of action-ready strength, ready to move at anytime, to deal with any type of crisis, anywhere on earth.

USAF Participation in Swift Strike III *(29 min., sd., color, 16 mm., 1964, Order No. SFP 1262, $97.75, USAF)* Highlights Tactical Air Command's participation in Swift Strike III, a joint exercise to evaluate Strike Command air and ground units as a single combat force. Points out effectiveness of large scale, close-in air support and emphasizes the potential versatility and flexibility of STRICOM forces. Cleared for TV.

Warning Star *(24 min., sd., color, 16 mm., 1963, Order No. SFP 1154, $81.50, USAF)* Discusses the RC-121 "Warning Stars," explaining their importance in guarding North American coast lines against enemy attack. Pictures the pre-flight briefing rooms and flight lines, explains air and ground crew responsibilities, includes views of the hangars where the aircraft and their complex electronic equipment are kept in top shape, and tells about the Warning Star night patrols. Cleared for TV.

The Weapons Controller—Key to Effective Air Defense *(22 min., sd., color, 16mm., 1968, Order No. SFP 1754, $74.75, USAF)* Portrays global role of weapons controller in ADC and NORAD and describes advantageous career opportunities in this field. Depicts formal training of controllers who can advance as high as a commander at a SAGE site. Explains how our widespread air defense network enables the controller to pick a tour duty anywhere from the arctic to the tropics. Also stresses the military importance of his position in identifying aircraft, scrambling interceptors and guiding to target.

Yankee Do *(19 min., sd., color, 16 mm., Order No. MN 9587, $65.00, USN)* Explains the importance of the attack carrier and describes activities of the men of the Navy and Marine Corps in maintaining and operating these carriers.

Your Air Force *(18 min., sd., color, 16 mm., 1966, Order No. SFP 1217, $61.75, USAF)* Presents a panorama of the major Air Force commands and their contributions to the USAF team. Pictures tactical, strategic assault airlift, air defense, and missile capability. Points out activities in logistic support, education, research and aerospace medicine. Cleared for TV.

INDUSTRIAL SECURITY & SECURITY CONTROL

The Case of Comrade "T" *(23 min., sd., color, 16 mm., Order No. DOD IS-1, $78.25, DOD)* A dramatized story of a communist agent who is reprimanded by his superiors for his failure to secure secret information from industrial plants and of his explanation, through flashbacks, of specific instances of successes and failures.

The Daily Enemy *(14 min., sd., color, 16 mm., Order No. DOD IS-4, $48.50, DOD)* Shows how loyal personnel working on classified Defense contracts can jeopardize security by playing into the hands of "The Daily Enemy," i.e. carelessness—Distributed to CF & EEs for loan to defense contractors and other industrial organizations.

Defense Against the Spy *(20 min., sd., b&w, 16 mm., 1968, Order No. DOD-IS 10, $35.25, DOD)* An illustration of espionage showing the techniques and sophisticated tools used by enemy agents to obtain classified information. For DOD and Defense Contractor personnel.

The Enemy Agent and You *(25 min., sd., b&w, 16 mm., 1965, Order No. DOD-IS 7, $43.75, DOD)* Reveals the techniques and devices used by professional enemy agents to obtain security information.

Guarding Against Sabotage *(32 min., sd., b&w, 16 mm., Order No. TF 19-1740, $55.25, USA)* Discusses the techniques of sabotage—including fire, explosives, and mechanical means—and presents several case histories of sabotage.

The Hollow Coin *(15 min., sd., b&w, 16 mm., Order No. DOD IS 3, $27.00, DOD)* Factual report of an actual case of espionage against the United States. Documents the capture and trial of Colonel Rudolf I. Abel, professional Soviet spy, and points out that industrial and technical workers were the prime targets for Abel's information. Outlines the objectives of the Department of Defense security program, underscoring the responsibility of the individual worker to maintain security.

Industrial Defense Surveys—Part I Introduction *(8 min., sd., b&w, 16 mm., 1967, Order No. TF 19-3715, $14.25, USA)* Defines the objectives and criteria of the Industrial Defense Survey Program, and describes the preparations which must be made by the Industrial Defense Survey Officer.

Industrial Defense Surveys—Part II Conducting the Survey *(20 min., sd., b&w, 16 mm., 1967, Order No. TF 19-3716, $35.25, USA)*

Describes the pertinent aspects of an on-site industrial defense survey made by an Industrial Defense Survey Officer accompanied by a plant's Industrial Defense Co-ordinator.

Industrial Plant Protection *(29 min., sd., b&w, 16 mm., Order No. TF 19-1847, $50.25, USA)* Explains the basic principles, standards, and elements of physical security applicable to plants engaged in defense production. Prepared for use by military and civilian security officers and guards.

It's Your Decision *(32 min., sd., color, 16 mm., Order No. SFP 368, $107.50, USAF)* Through animation explains the Armed Forces industrial defense program; responsibilities of military, civil, and industrial authorities in the event of attack; and steps which every plant should take to minimize damage and restore production.

Memorandum on Security *(9 min., sd., color, 16 mm., Order No. DOD IS-2, $31.00, DOD)* Shows research activity being carried on in various universities, research centers, and industrial laboratories for the Department of Defense, and explains the purpose of security regulations and procedures required to enforce them. Includes scenes of Deputy Secretary of Defense Donald A. Quarles, and emphasizes the importance of security in defense research activity. Intended primarily for scientific and engineering personnel working on critical research projects for the Department of Defense.

Safeguarding Defense Information—Why We Need Security *(29 min., sd., b&w, 16 mm., 1964, Order No. TF 30-3434, $50.25, USA)* Outlines reasons for military security measures. Defines requirement for military security in a "cold-war" climate as well as during actual conflict.

Safeguarding Military Information *(16 min., sd., b&w, 16 mm., Order No. TF 30-1523, $28.50, USA)* Stresses the importance of safeguarding military information for both military and civilian personnel.

Security Man *(17 min., sd., b&w, 16 mm., Order No. DOD IS-5, $30.50, DOD)* This film on industrial security is designed to develop increased security awareness among employees working on classified government contracts. Presentation follows a government security man as he visits an industrial facility and points up some of the problems encountered. Based on actual case histories on file with the Department of Defense, it is shown how loyal Americans compromise security through ignorance and carelessness. The theme is developed that security is everybody's responsibility, and that strict adherence to established security regulations is imperative for national defense.

The Smile and the Sword *(22 min., sd., b&w, 16 mm., Order No. DOD IS-9, $38.50, DOD)* Aimed at Defense Contractor employees who have access to classified information. An actual case from official U.S. Government files is used to illustrate Communist espionage methods.

LAW ENFORCEMENT

Civil Disturbances—Principles of Control *(35 min., sd., color, 16 mm., Order No. TF 19-3950, $117.50, USA)* Designed to orient and train both military and civilian personnel subject to civil disturbance duty.

Riot Control Formations *(24 min., sd., b&w, 16 mm., 1967, Order No. TF-19-3799, $42.25, USA)* Introduction to the basic riot control formations and some of their variants at the squad, platoon, and company levels.

Support in Emergencies (Riot Control) *(30 min., sd., b&w, 16 mm., Order No. TF 19-1701, $52.00, USA)* Portrays the principles and techniques used by military personnel in dispersing unruly crowds and mobs and in controlling orderly crowds.

MILITARY JUSTICE

The Code and You *(25 min., sd., b&w, 16 mm., Order No. MN 7319-a, $43.75, USN)* Explains the major points in the Uniform code of military justice adopted by the U.S. armed forces.

Evidence in Courts-Martial: General Rules of Evidence *(17 min., sd., b&w, 16 mm., Order No. MN 9238-a, $30.50, USN)* Shows typical situations in courts-martial and how the rules of evidence are applied. Among the items discussed are corpus delicti, identity, intent, oral testimony, documentary evidence, real evidence, direct and circumstantial evidence, and relevant and competent evidence.

This Is the Code: Absence Offenses *(10 min., sd., b&w, 16 mm., Order No. MN 7855-a, $17.50, USN)* Discusses articles of the Uniform code of military justice of the U.S. Armed Forces that are concerned with various forms of unauthorized absence.

This Is the Code: Conduct Before the Enemy *(11 min., sd., b&w, 16 mm., Order No. MN 7855-c, $19.25, USN)* Discusses articles of the Uniform code of military justice that are concerned with conduct before the enemy, treatment of prisoners, conduct as a prisoner, proper handling of captured or abandoned property, spies, etc.

This Is the Code: Crimes Against Persons and Property *(18 min., sd., b&w, 16 mm., Order No. MN 7855-d, $32.00, USN)* Explains the provisions of the Uniform code of military justice that relate to crimes against the person and against property. Closes with the reminder that wearing the uniform imposes the obligation for a serviceman to uphold his country's honor and reputation as well as his own.

This Is the Code: Disrespect, Disobedience, and Improper Performance of Duty *(16 min., sd., b&w, 16 mm., Order No. MN 7855-b, $28.50, USN)* Discusses the provisions of the Uniform code of military justice that are concerned with disrespect, disobedience, and improper performance of duty.

This Is the Code: General Criminal Articles *(8 min., sd., b&w, 16 mm., Order No. MN 7855-f, $14.25, USN)* Discusses general provisions of the Uniform code of military justice, such as conspiracy, accessory after the fact, contempt toward officials, conduct unbecoming an officer and a gentleman, improper hazarding of a vessel, violating local traffic laws, and tampering with the mails. Concludes by summarizing various articles in the code.

This Is the Code: Procedural Articles *(15 min., sd., b&w, 16 mm., Order No. MN 7855-e, $27.00, USN)* Discusses procedural articles of the Uniform code of military justice, such as those dealing with restraint of persons charged with offenses, unlawful detention, authority of civil authorities, confinement with enemy prisoners, resisting apprehension, breach of arrest, escape, releasing a prisoner without authority, compulsory self-incrimination, right of a commanding officer to punish offenders, types of courts-martial, membership of various courts, perjury, cruel and unusual punishment.

The Uniform Code of Military Justice—Summary Court Martial *(46 min., sd., b&w, 16 mm., Order No. MN 7319C, $78.00, USN)* Procedures and conduct of a summary court martial, and duties and responsibilities of the officers.

PHYSICAL FITNESS

EXERCISES

Physical Fitness Training—Navy Standard Physical Fitness Test *(20 min., sd., b&w, 16 mm., Order No. MN 2652A, $35.25, USN)* Tests of strength, endurance, stamina, and degree of agility—squat thrusts, sit-ups, push-ups, squat-jumps, and pull-ups.

Physical Fitness Program for the United States Navy *(25 min., sd., b&w, 16 mm., Order No. MN 1138, $43.75, USN)* Shows exercises given the Naval trainee and correlates their value with varied duties he will be called upon to perform afloat.

Physical Fitness for Waves—Makeup from the Neck Down *(19 min., sd., b&w, 16 mm., Order No. MN 2651, $33.75, USN)* Jumping jack, bounce and stretch, heel balance, windmill, flip flop, criss cross, bounce and curl, and down and out. The value of participating in sports and planned exercises.

JUDO

Combative Measures: Judo *(21 min., sd., b&w, 16 mm., Order No. TF 1-4981, $225.00, USAF)* - 1. Introduction for combat crews. 18 min. - 2. Introduction for air police. 10 min. - 3a. Principles and body movement. 11 min. - 3b. Falling way (ukemi) 6 min. - 3c. Shoulder wheel (kataguruma) 3 min. - 3d. Shoulder throw (seoinage) 3 min. - 3e. Body drop (tai-otoshi) 3 min. - 3f. Hip throw (o-goshi) 3 min. - 3g. Front foot block (sasaetsurikomisashi) 3 min. - 3h. Double foot sweep (okuri-ashi-barai) 3 min. - 3j. Outside leg sweep (o-soto-gari) 3 min. - 3k. Lateral corner drop (modified sumi-gaeshi) 3 min. - 3l. Holding techniques. 3 min. - 3m. Choking techniques. 4 min. - 3n. Choking techniques. 4 min. - 3o. Joint locking techniques. 6 min. - 4a. Parrying and striking. 8 min. - 4b. Standing and ground maneuvering. 5 min. - 4c. Disarming and use of weapons. 6 min. - 5a. Advanced throwing. 5 min. - 5b. Combinations and counter throwing. 10 min.

Personal Encounter *(60 min., sd., b&w, 16 mm., Order No. TF 19-1634, $103.75, USA)* Shows ten aspects of hand-to-hand fighting; principles of Judo, falling correctly, throwing, following-through, defense against body holds, defense against choke holds, taking prisoners, defense against wrestling holds, defense against knife or club, and offensive use of the police riot club. For law enforcement groups.

RECREATION AND SPORTS

Recreation and Athletics in the Navy *(10 min., sd., b&w, 16 mm., Order No. MN 6620, $17.50, USN)* Emphasizes importance of physical training in the U. S. Navy and demonstrates types of training that may be practiced by the individual for recreation.

Recreation Center Operation *(13 min., sd., b&w, 16 mm., order No. MF 12-7841, $23.75, USA)* Shows and explains the operation and activities of a U.S. Army recreation center.

The Soldier at Leisure *(14 min., sd., b&w, 16 mm., Order No. MF 12-7936, $25.25, USA)* Explains the functions of Army service clubs and the activities provided for soldiers' leisure time; includes pictures of soldiers in Japan on tours, watching sport exhibitions, and being instructed in music and floral arrangements.

USAF Sports and Recreation 1964 *(24 min., sd., b&w, 16 mm., 1965, Order No. SFP 1255, $42.25, USAF)* Reviews Air Force team and individual 1964 tournament championships—bowling, volleyball, basketball, bobsledding, curling, chess, judo, track and field, tennis, softball, golf and model airplane flying. Cleared for TV.

SAFETY

ACCIDENTS AND PREVENTIONS

Air Force Occupational Medical Program *(22 min., sd., color, 16 mm., 1965, Order No. SFP 1358, $74.75, USAF)* Defines duties of medical personnel and engineers in protecting the health of industrial workers. Discusses pre-employment and periodic examinations, emergency treatment, and minimizing or eliminating work hazards. Pictures environmental health laboratories which conduct studies on air pollution, ionizing radiation, sonic boom, etc. Cleared for TV.

Chemical Lab Safety *(25 min., sd., color, 16 mm., Order No. M445, $84.75, NMAC)* Several simulated chemical lab "accidents" are depicted along with suggestions for their prevention and tips for general safety precautions in routine lab activities.

The Hidden Hazards *(28 min., sd., b&w, 16 mm., Order No. MIS-751, $48.75, NMAC)* As man has progressed to the complex vocational activities of today, occupational hazards have multiplied. The protection of the American working force from these hazards is a challenge to medical and health science. Emphasizes a wide new career area for those interested in medical and related sciences.

Infectious Hazards of Bacteriological Techniques *(13 min., sd., color, 16 mm., Order No. M-382, $45.25, NMAC)* Techniques and procedures used in the bacteriological laboratory are presented, showing the dangers of infection inherent in such operations and means for minimizing or elimination of such dangers. Safety cabinets are advocated when performing hazardous operations with infectious micro-organisms.

Infectious Hazards in the Laboratory—Safe Use of the Syringe *(16 min., sd., color, 16 mm., Order No. M-1297, $21.25, NMAC)* Demonstrates many of the hazards encountered in the use of the syringe for inoculation of animals with infectious material. Emphasis is given to the proper procedures to be followed in selecting and filling the syringe, inoculation techniques, and disposal of contaminated syringes.

Laboratory Design for Microbiological Safety *(34 min., sd., color, 16 mm., Order No. M-1091, $114.25, NMAC)* Stresses the need for safety measures in the design of infectious disease laboratories. Furthermore, it describes and illustrates some of the principal building features and devices used to provide effective microbiological containment. The concept of primary and secondary barriers in preventing escape and spread of micro-organisms is discussed.

Man and Safety—Physical Limitations *(24 min., sd., color, 16 mm., 1963, Order No. TF 5522b, $81.50, USAF)* Describes man's physical limitations and relates them to human error accidents. Delineates human frailties in movement, sound, vision, balance and vertigo, tactile sensitivity, perception and reflexes. Reconstructs several accidents to show the consequences of exceeding one's physical capacities. Cleared for TV.

Off-Site Monitoring of Fallout from Nuclear Tests *(29 min., sd., color, 16 mm., Order No. M-309, $97.75, NMAC)* Shows the radiological safety activities of the U.S. Public Health Service carried on at the off-site area of the Atomic Energy Commission test in Nevada.

Pesticides TV Spots ($11.50)

H-1612	20 seconds	(Skull and Bones)—Explains steps that should be taken in accidental poisoning.
H-1613	20 seconds	(Insects)—To make the public aware that pesticides spilled on the skin can be poisonous.
H-1614	20 seconds	(Children)—To caution children not to drink pesticides.
H-1614-SP	20 seconds	(Children)—To caution children not to drink pesticides.

NOTE: Pesticides TV Spots will be shipped only as a complete set on a 400 Ft. reel. (NMAC)

The Practice of Radiological Safety *(33 min., sd., b&w, 16 mm., Order No. PMF 5145-f, $56.75, USA)* Shows how shipments of radioactive materials are handled, doses for therapy prepared, and synthetic compounds manufactured; pictures the protective clothing and the metering equipment worn by personnel handling radio-active materials; emphasizes safety precautions.

Radiation Safety in Nuclear Energy Explorations *(24 min., sd., color, 16 mm., Order No. M-461, $81.50, NMAC)* Depicts the activities of the Division of Radiological Health of the Public Health Service, showing public health programs designed for protection against radiation.

Self Preservation in Atomic Bomb Attack *(18 min., sd., b&w, 16 mm., Order No. AFSR-128, $32.00, USA)* This demonstrates individual safety measures to be followed in the event of an atomic bomb attack by air, at varying distances from ground zero and with varying degrees of cover available.

Time and Tide *(24 min., sd., color, 16 mm., 1964, Order No. SFP 1362, $81.50, USAF)* Barney Anderson learns a tragic lesson from the misuse of time. He postpones overdue repair job on a wagon in which his son is fatally injured. In the wake of his sorrow, Barney realizes that putting off till tomorrow can bring disaster. Cleared for TV.

Trapped (Rescue Work) *(20 min., sd., b&w, 16 mm., 1962, Order No. CD-20-104, $35.25, DOD)* Graphically emphasizes the need for trained rescue workers and shows many of the risks as well as the rewards of rescue.

You Can't Bite Back *(10 min., sd., color, 16 mm., 1969, $34.00, USPO)* Shows the employee the most effective way to handle neighborhood dogs. Points out that dogs have various personalities and the tactics that are useful when each type of dog is encountered.

AIR

Aircraft Accident Investigation *(37 min., sd., b&w, 16 mm., Order No. TF 1-8150, $63.50, USAF)* Explains that simple human errors are the cause of most aircraft accidents, many of which are triggered by the personal problems of the pilot. Shows that the medical investigator must seek out and determine the mental and emotional aspects behind these human errors and make recommendations which will prevent such accidents from happening again. In detective story fashion, demonstrates the techniques of medical investigation in two cases of deaths resulting from preventable accidents.

Bailing Out *(9 min., sd., color, 16 mm., Order No. MN 4353-r, $31.00, USN)* Illustrates through cartoons how naval aviators should bail out of aircraft.

Danger: Stacked Deck *(20 min., sd., color, 16 mm., Order No. FN 8909, $68.25, USN)* Emphasizes six rules that are basic to flight-deck safety aboard a large aircraft carrier underway at sea. Illustrates each rule being disregarded by flight deck personnel and portrays the consequences; shows why the safety rules should be observed.

Flight Line Safety *(20 min., sd., color, 16 mm., 1962, Order No. TF 46-3105, $68.25, USA)* Teaches Army aircraft mechanics the rules and procedures to prevent accidents when performing maintenance tasks in the service area.

Foreign Objects Damage to Army Aircraft *(16 min., sd., b&w, 16 mm., 1967, Order No. TF 46-3822, $28.50, USA)* Explains the danger of foreign object damage, how it is caused in Army rotary and fixed wing aircraft, and how it can be prevented.

Ground Safety on the Flight Line. Part I *(10 min., sd., color, 16 mm., Order No. TF 1-5047a, $34.00, USAF)* Portrays the work of U.S. Air Force ground crews in servicing B-47's.

Ground Safety on the Flight Line. Part II *(14 min., sd., color, 16 mm., Order No. TF 1-5047b, $48.50, USAF)* Portrays an investigation of the burning of a B-47 Air Force plane.

Hazards in Ground Operation of Jet Aircraft *(5 min., sd., color, 16 mm., Order No. MN 4353-p, $18.00, USN)* Explains through animation the exhaust blast, suction, and cooling hazards of jet propelled aircraft; and safety precautions to prevent injury to personnel and damage to jet engines.

Introduction to Aircraft Flight Instruments *(28 min., sd., b&w, 16 mm., 1964, Order No. TF 46-3405, $48.75, USA)* Defines requirement for properly functioning instruments for safe flight and underscores importance of regular inspection and maintenance.

Lessons Learned from Aircraft Accidents—Know Your Aircraft *(21 min., sd., b&w, 16 mm., 1967, Order No. TF 46-3768, $37.00, USA)* Discusses the problem of aircraft accidents resulting from aviators' lack of knowledge, or disregard of aircraft limitations.

Maintenance Safety in Aviation—Murphy's Law *(10 min., sd., color, 16 mm., Order No. FN 8642, $34.00, USN)* How improper installation of aircraft equipment can cause accidents.

The Minute Saved *(29 min., sd., b&w, 16 mm., 1967, Order No. TF 46-3797, $50.25, USA)* Concerns the element of "haste" which all too often acts as catalyst of destruction in aviation.

Moods in Safety *(21 min., sd., color, 16 mm., 1966, Order No. SFP 1493, $71.50, USAF)* Demonstrates how various types of moods and emotions can be detrimental to personal safety on and off the job. Shows how over-confidence, cockiness, anger, depression, tension, etc., cause accidents through distortion of intelligence, logic and sense of reasoning. Stresses the importance of following safety rules on the flight line, in flight, at the missile site, and behind the wheel. Cleared for TV.

DRIVING

Automobile Tire Hydroplaning: What Happens *(12 min., sd., color, 16 mm., 1967, Order No. HQa-162, $42.00, NASA)* Shows how and why automobile tires lose contact with wet pavements and the relationship between speed, tire wear and water depth. The dangers of hydroplaning are emphasized. Produced jointly with the Bureau of Public Roads.

Cycle Logic—Cycle Safety *(25 min., sd., color, 16 mm., 1967, Order No. TF 5990, $84.75, USAF)* Demonstrates safe operation and handling of motorcycles. Shows how to start, clutch, brake and accelerate. Explains anticipation riding in entering intersections, taking curves, changing lanes, keeping safe distances and avoiding road hazards. Covers city, country road and freeway driving conditions. Also stresses importance of protective clothing and good posture. Cleared for TV.

Holiday Traffic Safety—Home for the Holidays *(19 min., sd., b&w, 16 mm., 1963, Order No. TF 5593, $33.75, USAF)* Pictures the heavy highway traffic problems persons face in driving home during the Christmas season. To define the legal and moral obligations of motorists, film follows several travelers who become involved in accidents because of speed, carelessness, fatigue and alcohol. Also stresses the importance of defensive driving to insure a safe trip home for the holidays. Cleared for TV.

How To Prevent Private Vehicle Accidents *(25 min., sd., b&w, 16 mm., Order No. TF 20-3317, $43.75, USA)* How the 3 elements of a Post Safety Program are implemented: Driver Education, Engineering Methods, & Effective Law Enforcement Measures.

Moral Responsibility of Safety *(6 min., sd., b&w, 16 mm., Order No. TF 16-2791, $11.00, USA)* Four people directly and indirectly involved in a traffic accident face the issue, "Who was morally responsible for the accident?"

Nightmare for the Bold *(53 min., sd., b&w, 16 mm., Order No. TF 1-5301, $92.50, USAF)* Dramatizes events in the life of a fictional A/2C Mike Adams, who must learn to live with a lifetime of regret as the result of an automobile accident.

The Operator and Safety *(19 min., sd., b&w, 16 mm., Order No. OE 493, $33.75, USOE)* Importance of safety in bus operation; how to operate safely in passing cars, at intersections, at bus stop zones, and under special weather conditions.

Passengers, Driving Hazards, Safety *(14 min., sd., b&w, 16 mm., Order No. OE 495, $25.50, USOE)* Points out the driver's responsibility for the safety of child passengers; safe driving habits, and safety in handling children getting on and off the bus.

Safe Driving in Bad Weather. Part I: Light Vehicles *(17 min., sd., b&w, 16 mm., Order No. TF 1-5013, $30.50, USAF)* Shows driving hazards in rain, snow, and on ice, and demonstrates how to overcome them.

Safe Driving in Bad Weather. Part II: Trucks and Tractor-Trailers *(16 min., sd., b&w, 16 mm., Order NO. TF 1-5013, $28.50, USAF)* Explains the importance of knowing your vehicle, driving according to road conditions, using bad-weather equipment furnished with a truck, and always being on the alert.

Safe Driving in Europe *(15 min., sd., b&w, 16 mm., Order No. SFP 529, $27.00, USAF)* Demonstrates the principles of safe driving, and explains traffic regulations which servicemen should observe while driving in the countries they visit.

Safety in Highway Surveying *(25 min., sd., color, 16 mm., 1960, $84.75, FHA)* Shows the hazards and appropriate precautions for a highway survey party working in rough country, dense vegetation, timberland, and mountainous country, as well as along the highway. Explains safe working practices for various hand tools and equipment. Survey work and inspections performed during construction are also included. Precautions taken for the safety and convenience of the traveling public during survey and construction are shown.

Seatbelts, Your Life Insurance *(9 min., sd., color, 16 mm., 1962, Order No. FR 279, $31.00, USAF)* Emphasizes benefits of seat belts in preventing fatalities and in reducing injuries. Shows methods of installation. Cleared for TV.

FIRE

An Object Lesson in Fire Prevention *(21 min., sd., b&w, 16 mm., Order No. MN 6896, $37.00, USN)* Explains the fire hazards in aviation overhaul and repair shops, and the importance of protective measures. Primarily for management and supervisory personnel.

Arctic Fire Protection *(16 min., sd., color, 16 mm., 1965, Order No. TF 5742, $55.00, USAF)* Portrays Alaskan Air Command's fire protection program and calls attention to the many problems encountered because of the sub-zero temperatures. Illustrates maintenance, care, operation and use of specialized fire fighting equipment. Points out that AAC's (Alaskan Air Command's) fire protection of air bases of early warning sites is vital to our national security. Cleared for TV.

Blanket for Survival *(22 min., sd., color, 16 mm., 1965, Order No. FA-607, $80.25, FAA)* This film demonstrates a successful technique for combating major aircraft fires based on the premises of reaching the full length of the fuselage, cooling the metal, and blanketing the fire area. Cleared for TV.

Inspection, Maintenance, and Operation of Automatic Sprinkler Systems *(25 min., sd., color, 16 mm., Order No. TF 1-5303, $84.75, USAF)* Explains the importance of automatic sprinkler systems in fire protection and control. Demonstrates inspection and maintenance procedures common to all systems, and emphasizes the wet pipe, dry pipe, and deluge systems.

Shipyard Fire and Explosion Hazards *(41 min., sd., color, 16 mm., $136.75, USDOL)* This film presents, by use of table top demonstrations, the principles of fires with applications to shipyard repairing and building activities. Control measures for prevention of fire and explosion accidents are pointed out.

HOSPITAL

Safety in Hospitals *(27 min., sd., b&w, 16 mm., 1967, Order No. TF 8-3777, $47.00, USA)* A general orientation film which discusses the major aspects of the safety program required in Army hospitals.

INDUSTRY

Air Force Industrial Medicine in Action: Physical Hazards *(33 min., sd., color, 16 mm., 1961, Order No. TF 1-8170c, $110.75, USAF)* Describes physical hazards incidental to industrial operations at an Air Force base. Shows how the industrial physician and the industrial hygiene engineer indoctrinate personnel regarding the undesirable effects of noise, how they keep noise hazards under surveillance, and how they monitor the effects of exposure to noise. Explains the various types of radiation hazards and uses charts to illustrate how ionizing radiation enters the bloodstream and affects the body cells. Shows how abnormalities in temperature, humidity, and pressure affect workers. Cleared for TV.

Chemical Safety in Aerial Application *(13 min., sd., color, 16 mm., 1966, Order No. FA-616, $45.25, FAA)* This is a technical film that explains the care and safety precautions to be used in handling toxic chemicals used in aerial application. Cleared for TV.

Industrial Hygiene—Right Makes Safe *(30 min., sd., color, 16 mm., 1967, Order No. MN 10295, $101.00, USN)* Hazards to ears, skin, eyes and the respiratory system. Preventive measures and protective equipment for eliminating risks.

Industrial Medicine in Action: Toxic Chemical Agents *(29 min., sd., color, 16 mm., Order No. TF 1-8170b, $97.75, USAF)* Explains the need for evaluating working conditions in shops and on flight lines and discusses the importance of protecting workers from toxic chemical agents. Stresses the need for periodic physical examination of workers, the use of protective equipment, and proper ventilation.

Missile Fuels, Propellants and Oxidizers *(22 min., sd., color, 16 mm., 1961, Order No. TF 1-5384A, $74.75, USAF)* Liquid Oxygen receipt, transfer, storage, disposal of liquid oxygen; safety measures for transferring fuel from tank trucks to storage areas; and procedures for disposing of contaminated fuel. Stresses importance of protective clothing, emergency measures, good housekeeping and clean equipment. Shows laboratory testing for foreign matter. Cleared for TV.

Safety in the Shop *(12 min., sd., b&w, 16 mm., Order No. OE 481, $22.25, USOE)* Dramatizes three typical shop accidents and shows how poor supervision or inadequate training may have been the real cause behind these "accidents".

Safety Precautions for Electronics Personnel *(18 min., sd., b&w, 16 mm., Order No. MN 6754, $32.00, USN)* Shows electrical and mechanical hazards which electronics technicians encounter in their normal work, and stresses precautions which should be employed to prevent accidents.

Shop Safety *(22 min., sd., color, 16 mm., 1967, Order No. TF 9-3790, $74.75, USA)* Describes common hazards in a vehicle maintenance shop, and the precautions necessary to prevent accidents.

115 Volts; Deadly Shipmate *(19 min., sd., color, 16 mm., Order No. MN 8990, $65.00, USN)* Portrays the story of Joe, who is representative of all sailors. Dramatizes actual incidents to emphasize the disastrous effects of low voltage electrical shock when the basic rules of electrical safety are violated or ignored.

WATER

Abandon Ship *(32 min., sd., b&w, 16 mm., Order No. MN 1145, $55.25, USN)* Explains how to abandon a ship, escape through oil and gas, use emergency flotation tactics, rescue others, and defend self against predatory marine life.

Be Water Wise: Boating *(21 min., sd., color, 16 mm., Order No. TF 1-5192b, $71.50, USAF)* Depicts safe methods for canoeing, outboard motorboating, sailing, and skiing. Discusses marine traffic regulations, emergency measures, and courtesy codes.

Be Water Wise: Swimming *(25 min., sd., color, 16 mm., 1960, Order No. TF 1-5192-a, $84.75, USAF)* Shows how to enjoy safe swimming whether in the pool, surf, lake or the 'ole' swimming hole. Points out consequences when safety rules are ignored. As scene shifts from controlled swimming facilities to unsupervised lakes and streams, a ground safety officer discusses the five basic principles of safe swimming.

Boating Safety "B" *(18 min., sd., color, 16 mm., 1962, $77.00 USCG)* This film is a continuation of subject matter contained in the "A" film of the same title, covering additional safety subjects. These two films should provide sound training for the novice boat operator and his passengers to meet emergencies when they occur. The theme is that all boating should be safe boating.

Boating Safety, Part C: Safety Equipment *(16 min., sd., color, 16 mm., $60.00, USCG)* Demonstrates proper equipment and its correct utilization aboard pleasure craft, including various types of life preservers, signaling, anchor, and other devices calculated to increase boating knowledge. Cleared for TV.

Capsizing, Sinkings and Falls Overboard *(14 min., sd., color, 16 mm., 1968, $52.00, USCG)* Shows causes and how to prevent sinkings, capsizings and falls overboard. Discusses buoyant effect and stability of pleasure boats. Cleared for TV.

Coast Guard Auxiliary *(17 min., sd., color, 16 mm., 1960, $64.00, USCG)* This film is an interesting and informative presentation of the story of the Coast Guard Auxiliary; its mission, origin, history, organization, functions and accomplishments, with emphasis on current and projected activities in the field of promotion of boating safety.

Drownproofing: Safety and Survival Techniques for Swimmers and Non-Swimmers *(20 min., sd., color, 16 mm., 1966, $62.00, USOEO)* A training film for job corpsmen. Demonstrates the drownproofing technique of water survival.

Firefighting Aboard Tankers *(28 min., sd., color, 16 mm., 1961, $131.00, USCG)* Designed as a training film for all concerned with tanker operations, this film is primarily for Coast Guard use. In addition, however, it should provide valuable information for training tanker crews in the techniques and methods of handling equipment for fire-fighting aboard ship, at sea, or alongside a pier.

Merchant Marine Safety *(28 min., sd., color, 16 mm., 1962, $102.00, USCG)* The responsibilities of the Coast Guard in Merchant Marine Safety are clearly defined in this film: inspection and approval of blueprints for vessel construction; safety requirements for construction and equipment for vessels, and annual or periodic inspections thereafter; licensing and certification of officers and crews of vessels; various types of vessels with which the Coast Guard is concerned. In addition to equipment tests, fire drills, etc., a Board of Investigation is shown.

Safety On-The-Job at Sea *(17 min., sd., b&w, 16 mm., Order No. MN 8639, $30.50, USN)* Describes the organization for shipboard safety, how shipboard accidents can occur, accident prevention measures, and the importance of crew safety consciousness.

Swimming for Survival *(18 min., sd., b&w, 16 mm., Order No. MN 9198, $32.00, USN)* Stresses the importance of learning and practicing basic swimming skills by showing emergency situations where survival depends on this knowledge. Shows the side stroke, breast stroke, trudgeon, sculling, treading water, and entering the water by jumping and diving.

Take Safety with You *(14 min., sd., color, 16 mm., $102.00, USCE)* Shows safety practices that should be followed for the greatest and safest enjoyment of the many recreational facilities available at Corps of Engineers' Civil Works projects. Filmed on beautiful Lakes Ouachita, Grenada, and Texoma, and on the Mississippi River, this film stresses safe water recreation for the family.

SCIENCE

AERODYNAMICS

Aerodynamics—Air Flow *(18 min., sd., b&w., 16 mm., Order No. TF 1-160, $32.00, USAF)* Discusses theory of air flow around air foils. Cleared for TV.

Aerodynamics: Forces Acting on an Air Foil *(27 min., sd., b&w., 16 mm., Order No. TF 1-161, $47.00, USAF)* Theory and principles of the forces acting on air foils: lift, drag, angle of attack, and wing chord; development and use of wind tunnels to measure forces on a wing form; relationship between lift, drag, wing area, wind velocity, thrust, and weight. Cleared for TV.

Aerodynamics Fundamentals of Roll-Divergence *(12 min., sd., b&w, 16 mm., Order No. MN 9411, $22.25, USN)* Describes the interaction of inertial, gyroscopic, and aerodynamic forces on high-performance jet aircraft during roll maneuvers. Demonstrates through the use of animated drawings and a gimbal-mounted model of F8U aircraft, the undesirable results of excessive roll rate and duration.

Beyond the Stick and Rudder *(14 min., sd., b&w, 16 mm., Order No. TF 1-5300, $25.50, USAF)* Explains the basic principles of aerodynamics, shows how aircraft designers apply these laws to achieve superior design and performance without detracting from pilot safety, and emphasizes the pilot's need for a thorough knowledge of these laws for safe flying.

Crosswind Technique for a Conventional Geared Fixed Wing Aircraft *(25 min., sd., b&w, 16 mm., 1960, Order No. TF 46-2821, $43.75, USA)* Explains the aerodynamic principles involved in handling conventional geared fixed wing aircraft in crosswind.

Density Altitude *(29 min., sd., color, 16 mm., 1966, Order No. FA-603A, $106.00, FAA)* A safety film for pilots. Shows a young couple on a photographic assignment as they fly to the high altitude airports in the West and encounter the phenomenon known as density altitude which almost causes them to crash their light plane. Cleared for TV.

How an Airplane Flies, Parts 1 and 2 *(26 min., sd., b&w, 16 mm., Order No. TF 1-4804, $45.50, USAF)* Discusses the principle of the Venturi tube as it applies to the lift. Demonstrates the types of drag and the methods of overcoming them.

How an Airplane Flies, Parts 3, 4, 5 and 6 *(34 min., sd., b&w, 16 mm., Order No. TF 1-4805, $58.75, USAF)* Discusses the principles of thrust, forces in balance, stability, and the use of controls.

Operation of Jet Aircraft Engines *(18 min., sd., b&w, 16 mm., Order No. MN 5396-a, $32.00, USN)* Illustrates principles of jet propulsion by Newton's law of action and shows its application to jet engines; shows operating principles of the reciprocating engine to produce horsepower and thrust power; and demonstrates the application of jet propulsion in rockets and aircrafts.

Sonic Boom and You *(10 min., sd., color, 16 mm., 1968, Order No. FA-811, $38.00, FAA)* Sonic booms occur when an aircraft flies faster than the speed of sound. In response to public inquiries concerning the SST (U.S. Supersonic Transport), this film describes the sonic boom, its cause, and some of its effects.

Wake Turbulence *(15 min., sd., color, 16 mm., 1966, Order No. FA-610, $54.00 FAA)* Graphically illustrates the phenomena of wing tip vortices, how they are generated, what generates them, their effect on light aircraft, and suggested pilot actions on how best to avoid them. Cleared for TV.

ATOMIC ENERGY

ATOMS FOR SPACE AND SNAP

The Atom and the Man on the Moon *(13 min., sd., color, 16 mm., 1969, $46.50, USAEC)* Describes the SNAP-27's role in the Apollo program. SNAP-27 is a highly reliable, radioisotope-fueled thermoelectric generator, that will supply power for a small scientific laboratory to be installed on the lunar surface. The film discusses the type of lunar surface information the radioisotope-powered laboratory will send back to earth.

Atoms for Space *(28 min., sd., color, 16 mm., 1962, $94.50, USAEC)* Describes the development and use of compact nuclear power sources for space under the Commission's SNAP program. Features the first use of atomic power in the nation's space effort, and reports briefly on the uses of SNAP devices on land and sea.

Fabrication of SNAP-7D Fuel Sources *(12 min., sd., color, 16 mm., 1964, $48.50, USAEC)* A semi-technical description of the fabrication of strontium-90 fuel capsules for the SNAP-7D generator. Discusses the pelletizing and encapsulating operations in processing strontium-90 at the Fission Products Development Laboratory.

First Reactor in Space. . . SNAP-10A *(15 min., sd., color, 16 mm., 1965, $60.00, USAEC)* Describes the development of the SNAP-10A unit, the world's first nuclear power system to operate in space, its launch in 1965 by an Atlas-Agena vehicle, and the results of the experiment which was operated successfully for 43 days and produced more than 500,000 watt-hours of electricity.

Nuclear Power for Space—SNAP-9A *(12 min., sd., color, 16 mm., 1963, $49.00, USAEC)* This is a semi-technical film for high school and college-level audiences. After showing the launching of a new satellite, which is being wholly powered by a nuclear generator, animation is used to explain the use of its isotopic generator to create power to run electronic equipment, recording equipment, and transmit data back to earth for analysis. The advantages of nuclear energy are shown over the use of chemical energy and solar energy.

Nuclear Reactor Space Power Systems *(8 min., sd., color, 16 mm., 1964, $32.00, USAEC)* Summarizes the program aimed at developing nuclear reactor power supplies for large space vehicles. Reviews the reliability, high power levels, long unattended operating life, and safety characteristics of space nuclear power systems.

Nuclear Reactors for Space *(17 min., sd., color, 16 mm., 1961, $65.25, USAEC)* The SNAP program—Systems for Nuclear Auxiliary Power—is an AEC program to develop long-lived auxiliary power from nuclear energy for use in satellites and space vehicles. Compact atomic reactors being developed by Atomics International for use in SNAP systems are shown in this semi-technical film.

Our Nearest Star *(12 min., sd., color, 16 mm., 1961, $48.50, USAEC)* Explains that an isotopic-power system has been placed in orbit aboard the Transit Four-A navigation satellite, the first application of nuclear power in space. Follows the development testing of the radioisotope fuel capsule and the thermo-electric generator that make up this SNAP system.

Project Rover *(22 min., sd., color, 16 mm., 1963, $73.50, USAEC)* A 1962 progress report on the Atomic Energy Commission's Project Rover, a program for the development of a nuclear rocket for spacecraft propulsion. Gives an animated explanation of the principle of the nuclear rocket to demonstrate the advantages of the nuclear rocket system. Surveys the design, fabrication, and testing of a Kiwi non-flying test reactor at the Los Alamos Scientific Laboratory in Nevada.

SNAP—3 Operational Tests *(18 min., sd., color, 16 mm., 1960, $72.50, USAEC)* Describes operational tests (vibration, shock, acceleration, fire, explosion, land and sea impact, effects of salt water, aerodynamic heating, etc.) on the 41b SNAP-3 isotopic-power unit, which uses Po-210 to generate more than 3 watts as a source of auxiliary power for space vehicles. Concludes that SNAP-3 will operate effectively on launch and in orbit.

Snapshot *(29 min., sd., color, 16 mm., 1965, $97.75, USAEC)* Describes the scheduled flight test in space of the 500-watt SNAP 10A nuclear space power system. Uses animation to explain the orbital startup and operation in space of the reactor and the thermoelectric power converter; describes the extensive development and testing program which has resulted in the flight-ready SNAP 10A power system; reviews a series of qualification system tests; and explains the need for SNAP reactor power systems in current and future space projects.

SNAPTRAN 2/10A Water Immersion Test *(20 min., sd., color, 16 mm., 1965, $88.75, USAEC)* Investigates the effects of water immersion on a SNAP-10A reactor. Describes the basic components of the SNAP-10A reactor, its method of control, and follows in detail the non-nuclear tests of its behavior when immersed in water. Uses animation and live scenes to explain reactor behavior during the test and the subsequent radiological results; discusses the application of the information gained.

The Weather Eye *(13 min., sd., color, 16 mm., 1969, $83.00, USAEC)* The story of the design, development and fabrication of SNAP-19, a small, long-lived radioisotope-fueled nuclear generator used to supply power aboard a nimbus weather satellite. SNAP-19 supplements the work of solar cells in powering the transmitters and data-gathering instruments aboard the satellite. The film describes the design, testing and fabrication of the generator, in which the heat from the radioisotope plutonium-238 is converted directly to electrical power by means of thermocouples.

BIOLOGY AND MEDICINE

Acromegaly (Diagnosis—Etiology—Therapy) *(23 min., sd., color, 16 mm., 1965, $119.25, USAEC)* This technical film for professional audiences describes the successful application of heavy particle radiation, obtained from high energy cyclotrons for treatment of the comparatively rare disease, acromegaly. Work at Donner Laboratory in Berkeley with the 184-inch synchrocyclotron for treatment of acromegalic patients is described. Detailed procedures for preparing the patient and irradiating the pituitary gland are shown. Symptoms, diagnosis, etiology, and medical history and medical treatments also are discussed.

Atoms on the Farm *(12 min., sd., color, 16 mm., 1961, $56.00, USAEC)* A non-technical film on the Atomic Energy Commission exhibit on atomic energy in agriculture at the first World Agricultural Fair, held in New Delhi during the winter of 1959-1960. Shows scenes of the research reactor, master-slave manipulator, the gamma pool, the technical information center, and exhibits featuring radioactive tracers in agricultural research, plant mutations by gamma irradiation, atomic energy work in medicine, screwworm fly eradication, and food sterilization by irradiation.

Bikini—Radiological Laboratory *(22 min., sd., color, 16 mm., 1950, $92.00, USAEC)* A pictorial record of a survey by University of Washington scientists of the effects of radioactivity upon plant and marine life on Bikini Island 3-1/2 years after the Able and Baker atomic bomb explosions.

Chromosome Labeling by Tritium *(15 min., sd., color, 16 mm., 1958, $76.75, USAEC)* Discusses the advantages of tritium over other radioisotopes as labeling material in autoradiography.

Cobalt-60 Reloading *(8 min., sd., color, 16 mm., 1958, $43.00, USAEC)* Describes the unloading of a Co-60 capsule from the materials testing reactor at the National Reactor Testing Station in Idaho, showing monitoring and packing for shipment, and subsequent loading of the same capsules as the radioactive source into a teletherapy machine at the Argonne Cancer Research Hospital, Chicago.

Counting Whole Body Radioactivity *(11 min., sd., color, 16 mm., 1964, $42.00, USAEC)* Outlines the program of use of the Donner Laboratory whole body counter, an instrument developed to measure levels of radioactivity within the human body. Gives special reference to studies concerned with the iron metabolism of red blood cells and with calcium turnover in various diseases.

Diagnosis and Therapy with Radiation *(32 min., sd., color, 16 mm., 1964, $98.75, USAEC)* A medical discussion of current studies with radiation. Describes the use of radioactive chemicals in studies of the thyroid, kidneys, and blood, as well as clinical experiments with gases and isotopes that have made it possible to visualize many organs previously difficult or impossible to examine by X-rays.

Extracorporeal Irradiation of Blood and Lymph *(7-1/2 min., sd., color, 16 mm., 1966, USAEC)* This film, made at AEC's Brookhaven National Laboratory, shows how blood and/or lymph may be irradiated in a well-shielded gamma ray source outside of the body through a closed circuit of teflon tubes from artery to vein. New surgical techniques and plastic methodology have made this tool available for extensive research in experimental animals as well as in human beings.

Heavy Particle Beams in Medicine *(11 min., sd., color, 16 mm., 1964, $38.00, USAEC)* Surveys the historical development of the medical uses of cyclotrons. Shows the unique properties of accelerator-produced heavy particles of cyclotrons in nuclear medicine in providing creditable results in the treatment of acromegaly, Cushing's disease, and diabetic retinitis. Discusses the Bragg effect of alpha particle radiation in the direct treatment of tumors of the brain and soft tissue.

Human Radioactivity Measurements *(9 min., sd., color, 16 mm., 1958, $43.50, USAEC)* Shows a method developed at Los Alamos Scientific Laboratory to monitor personnel exposed to the possible intake of gamma-emitting materials and to study the retention and excretion of radioactive isotopes by the body. Points out that the liquid scintillation counter is large enough to contain a man and sensitive enough to detect even the minute amounts of his natural gamma radioactivity.

Iodine-131 *(15 min., sd., color, 16 mm., 1958, $79.00, USAEC)* Shows the diagnostic and therapeutic uses of the radioisotope I-131 for hyperthyroidism, thyroid cancer, and heart disease. Discusses the characteristics, techniques, and results, as well as the problems of standardization and calibration of scanning devices for I-131, probably the most-used isotope in the field of medicine.

Ionizing Radiation in Humans *(15 min., sd., color, 16 mm., 1958, $71.00, USAEC)* Shows the design and operation of the Argonne National Laboratory's whole-body counter for determining identification, quantity, and location of internally deposited radioelements. Includes demonstrations of various techniques in accumulation of data and collimating the crystal.

Liquid Scintillation Counting *(14 min., sd., color, 16 mm., 1958, $73.50, USAEC)* Describes the use of a liquid scintillator for counting low-energy beta emitters commonly used in biological and medical tracer experiments. Explains the advantages of the single- and double-photomultiplier tube liquid scintillation counters over the solid-phase and gas-phase counters. Explains counting techniques, how the counters work, and how a sample is prepared. Notes that liquid scintillation counting is an extremely useful technique, particularly for weak beta emitters.

Medical Research Reactor *(22 min., sd., color, 16 mm., 1958, $92.50, USAEC)* Demonstrates the need for reactors in medical research and defines the design criteria. Shows the reactor and its components during construction and assembly. Uses animation to show the operation of the reactor and shutters controlling its neutron beams. Includes a neutron-capture therapy experiment sequence at the Brookhaven graphite reactor which can be compared with the patient treatment facility at the new medical reactor.

Modification of Radiation Injury in Mice *(10 min., sd., color, 16 mm., 1958, $52.00, USAEC)* Shows the effects on mice of chemical protection by mercaptoethylguanidine (MEG) before irradiation and bone-marrow transplant after exposure to lethal doses of 900 r. as well as possible implications regarding treatment of some human diseases.

Non-root Feeding of Plants *(21 min., sd., color, 16 mm., 1958, USAEC)* Describes the techniques of applying nutrients to the visible, above-ground portion of plants. Discusses the method of tracing the nutrients through the plant's system by means of radioisotopes.

Plant Growth in Compensated Fields *(7 min., sd., color, 16 mm., 1967, $30.50, USAEC)* Points out that plant growth is controlled by a sensitive mechanism which responds to brief and minute stimulation. Describes the operation and use of the mechanical servosystem which neutralizes stimuli on plants for experimental purposes.

Return to Bikini *(24 min., sd., color, 16 mm., 1966, $115.00, USAEC)* A report of the studies made by a research team from the Laboratory of Radiation Biology of the University of Washington, to determine the after-effects of nuclear tests at the Bikini and Eniwetok atolls in the Pacific. Describes in detail how the biological processes on the islands are returning to normal and the results of nuclear testing are rapidly fading.

The Scintillation Camera *(10 min., sd., color, 16 mm., 1964, $36.50, USAEC)* Explains the diagnostic purpose of the scintillation camera in locating gamma-emitting isotopes within the human body. Uses animation to describe the equipment of the camera and its use in studying thyroid and kidney disorders. Describes a modified camera apparatus with position emitting isotopes that can be used in the diagnosis of brain tumors.

Teletherapy and Brachytherapy *(18 min., sd., color, 16 mm., 1958, $92.50, USAEC)* Shows the diagnostic and therapeutic uses of such radioisotopes as Co-60, Cs-137, Eu-152-154, I-131, and Y-90 in teletherapy and brachytherapy by using machines that aim a high-energy beam at a tumor or by using implants of radioactive materials in the form of needles, beads, sterile tubing, seeds, etc.

ENGINEERING

Accel: Automated Circuit Card Etching Layout *(20 min., sd., color, 16 mm., 1965, $72.25, USAEC)* ACCEL is a computer program which designs printed circuit boards and produces the drawings for their construction with the input encoded from an engineer's schematic diagram by a clerk without knowledge of electronics. The outputs of the program are a schematic, parts list, printed circuit negative, assembly drawing, and a hole drilling list. ACCEL is written in Fortran II for the IBM 7090 computer and the drawings are produced on the Stromberg Carlson 4020 cathode ray tube plotter. The film describes the operational aspects of the system, as well as the unusual algorithms used to accomplish the design feat.

Building for Atomic Energy *(21 min., sd., color, 16 mm., 1958, $86.00, USAEC)* A semi-technical film which covers the construction of the AEC's Savannah River Plant, the largest single construction project ever undertaken by the AEC. Shows the major structural requirements created by the atomic production buildings; the various types of supporting buildings and structures; and the wide application of all phases of the construction industry required to build the plant.

Fundamentals of Mechanical Vibration *(29 min., sd., color, 16 mm., 1964, $91.50, USAEC)* A technical discussion of the system of mechanical vibration, including, spring mass, viscous coulomb, and solid damped systems. Uses animation and live demonstrations to illustrate various types of damping. Presents animated mathematical examples by Fourier to demonstrate irregular forcing functions and their effects on engineering structures. Discusses a mathematical approach to solving composite displacement vibration problems.

Response to Mechanical Shock *(18 min., sd., color, 16 mm., 1968, $67.25, USAEC)* This technical film is the second in a series for engineers and engineering students (the first being "Fundamentals of Mechanical Vibration"). It illustrates several types of mechanical shock and shows the shock signature (acceleration as a function of time) generated by each shock. Through animation, the parameters used to define mechanical shock are shown: acceleration, velocity, and displacement, and the relationship and interdependence of these three functions are explained.

Terradynamics *(21 min., sd., color, 16 mm., 1968, $74.50, USAEC)* Documents the earth penetration program at Sandia Laboratories—a program concerned with determining the nature and composition of sub-surface soil using earth-penetrating, ballistic vehicles. With emphasis on current technology, the film shows early experimentation, the evolution of the program, the delivery techniques and design of several penetration vehicles, plus a typical recovery operation and post-recovery analysis.

FUELS, PROCESSING AND METALLURGY

Atomic Weatherman: Strontium-90 Isotopic Applications *(19 min., sd., color, 16 mm., 1961, $78.25, USAEC)* Describes the world's first radioisotope-powered weather station, which is operating unattended at a remote site in the Canadian Arctic. Explains that the "atomic" weather station is powered by a thermoelectric unit in which the heat from the decay of Sr-90 is directly converted into electricity.

Ceramic Fuel Fabrication Development for PRTR *(27 min., sd., color, 16 mm., 1962, $162.50, USAEC)* Gives a detailed technical explanation of three processes developed by Hanford Laboratories for the fabrication of UO-2 fuel elements used in the plutonium recycle test reactor (PRTR). Four significant phases of the fabrication processes are detailed in live and animated sequences: ultrasonic testing of cladding tubes; swaging to increase the bulk density of contained UO-2 powder; magnetic-force resistance butt welding of fuel-rod end caps; and final inspection steps, including the measurement of fuel density by gamma-ray attenuation.

Current Methods in Plutonium Fuel Fabrication *(30 min., sd., color, 16 mm., 1965, $160.75, USAEC)* Depicts the steps employed as of December 1964 in the fabrication of plutonium-uranium ceramic fuel elements for the PRTR and EBWR at Hanford's plutonium fabrication pilot plant. Presents the varied types of elements fabricated, and shows in detail various processes which are employed.

EBR-I Core Disassembly after Meltdown *(13 min., sd., color, 16 mm., 1958, $62.25, USAEC)* Presents some major aspects of the removal and subsequent disassembly of the core of Experimental Breeder Reactor I, Mark 2, following meltdown. Illustrates the hot-laboratory remote-control techniques used to separate and recover enriched fuel from the blanket material.

EBR-II Fuel Facility *(13 min., sd., color, 16 mm., 1964, $52.25, USAEC)* Shows how the radioactive fuel from the Experimental Breeder Reactor II is disassembled, reprocessed, and fabricated without prior time-consuming radioactive cooling periods. Describes how all facets of the system are designed for remote operation, repair, and modification of equipment.

Fabrication of Plutonium Disks *(13 min., sd., color, 16 mm., 1958, $37.00, USAEC)* Describes glove box work used at Los Alamos Scientific Laboratory in shaping toxic material for criticality studies in reactor development. Two methods of fabrication are shown—blanking the disks from sheet stock made by tube extrusion, and shaping disks by standard machining techniques. Explains that because of the pyrophoric nature of plutonium, a great deal of the work is done in an inert atmosphere.

Fabrication of Research Reactor Fuel Elements *(20 min., sd., color, 16 mm., 1958, $100.50, USAEC)* Describes the alloy and powder metallurgy methods of fabricating research reactor fuel elements.

Microdeformation of Uranium *(17 min., sd., color, 16 mm., 1958, $86.00, USAEC)* Pictures changes in the microstructure of uranium as a consequence of tensile loading and thermal treatment, showing studies accomplished by means of hot stage metallography. Includes formation of twin and kink bands, distortion at grain boundaries, fracturing, recrystallization, deformation due to thermal gradients, and microstructural changes associated with thermal cycling through the alpha-to-beta and the beta-to-gamma transformations.

Novel Methods of Fuel Fabrication *(14 min., sd., color, 16 mm., 1958, $72.75, USAEC)* Describes cold closure, a process for the cladding of solid uranium fuel in aluminum by sizing a heavy-walled cup, then cold welding. Illustrates electron-beam welding, a process utilizing electrons accelerated through a vacuum, and its application to welding of many reactive metals. Also covered is swaging, a process for fabricating clad uranium oxide fuel elements by direct compaction of loose powder.

Plutonium Fuel Fabrication, EBR-I, Mark 4 *(10 min., sd., color, 16 mm., 1961, $38.00, USAEC)* Explains that fabrication of plutonium fuel and test pieces is complicated by consideration of criticality, pyrophoricity, and radioactive toxicity. Describes the techniques and precautions observed in manufacturing fuel for the Experimental Breeder Reactor I (EBR-I, Mark 4)

Plutonium Fuel Fabrication for MTR *(11 min., sd., color, 16 mm., 1958, $55.00, USAEC)* Explains that the materials testing reactor (MTR) at AEC's National Reactor Testing Station, Idaho, has been operated utilizing plutonium as the entire fissionable fuel charge. Portrays the fabrication of this charge in the plutonium metallurgy laboratories of AEC's Hanford Works, Richland, Wash.

Plutonium Metal Preparation *(12 min., sd., b&w, 16 mm., 1958, $35.00, USAEC)* Shows the process and equipment designed and used at Los Alamos Scientific Laboratory in converting plutonium from a nitrate solution to elemental metal. Explains that because of serious health hazards, plutonium is processed in airtight compartments, with equipment operated entirely by remote control. Explains that the isolated plutonium is used for metallurgical and pyrometallurgical research, for fuel alloy development, and for reactor and critical assembly elements.

Plutonium Recycle *(17 min., sd., color, 16 mm., 1964, $67.00, USAEC)* Explains that the nuclear-economic advantages of plutonium depend upon the performance of the multiple recycle. Describes various aspects of thermal and fast reactor development, with particular emphasis on fuel element technology, reactor use, and chemical reprocessing associated with mixed oxides of plutonium and uranium in thermal reactors.

The Portsmouth Story *(23 min., sd., b&w, 16 mm., 1958, $45.00, USAEC)* Describes the construction of the Commission's gaseous diffusion plant at Portsmouth, Ohio.

Reactor Fuel Processing *(20 min., sd., color, 16 mm., 1958, $85.00, USAEC)* Describes radiochemical processing of irradiated reactor fuels, including steps in chemical separation and waste-disposal operations at various facilities of the Atomic Energy Commission.

Shear-Leach Process for Spent Nuclear Fuels *(11 min., sd., color, 16 mm., 1966, $39.50, USAEC)* Illustrates the development at Oak Ridge National Laboratory of the Shear-Leach Process, a mechanical method for reprocessing spent stainless steel or zircaloy-2 clad power reactor fuels. The various parts of the equipment are portrayed, as well as the operation of the Shear-Leach with unirradiated fuel.

Ternary Phase Diagram *(7 min., sd., color, 16 mm., 1965, $54.25, USAEC)* This technical film, primarily of interest to metallurgists, depicts the development of a new and rapid technique for preparation of ternary phase diagrams required in the search for useful alloys. Since there are more than 4,000 combinations of three-element alloys which can be made from common metals alone, a comprehensive collection of such diagrams is needed. The technique shown for determining ternary phase alloy diagrams makes it possible to circumvent a previously tedious, time consuming, and costly research procedure.

Trip Steel *(11 min., sd., color, 16 mm., 1968, $79.50, USAEC)* TRIP (transformation-induced-plasticity) is a new series of thermo-mechanically treated, highly alloyed steels combining high ductility and high strength, developed from AEC-supported basic research in metallurgy at the University of California in Berkeley. Tensile ductilities of 25% to 50% at strength levels above 200,000 psi are obtainable. The steels can be produced having wide ranges of composition and properties.

Through closeup photography, the film shows the transformation that occurs in TRIP steel as load is applied to both notched and tensile specimens.

INDUSTRIAL APPLICATIONS

Atoms in the Marketplace *(28 min., sd., color, 16 mm., 1968, $94.50, USAEC)* The atomic age has given us many remarkable tools for progress — among them an enormous and growing resource of high-cost nuclear materials to fill the needs of industry, science and technology. "Atoms in the Marketplace" deals with the economic nature and significance of these strategic nuclear materials — with their importance to commerce, to our nation and to the nations of the world.

A Beginning without End *(30 min., sd., color, 16 mm., 1968, $145.75, USAEC)* A non-technical survey of the wide variety of nuclear research and development projects at the Berkeley and Livermore sites of the Lawrence Radiation Laboratory.

Civilian Applications of Nuclear Explosives *(13 min., sd., color, 16 mm., 1964, $53.00, USAEC)* Surveys the technical progress made in developing scientific and industrial applications for nuclear explosives. Analyzes two modes of application for nuclear explosives from studies of forty-two nuclear explosions.

Clean Air Is a Breeze (Airborne Contamination Control through Laminar Air Flow) *(16 min., sd., color, 16 mm., 1965, $63.50, USAEC)* Illustrates common sources of air-borne contamination to show that the world is contaminated by a variety of airborne particles. Shows the difficulties of manufacturing precision devices in such a contaminated world, and describes earlier attempts to clean air for industrial processes. Explains the theory and basic operating principles of laminar air flow systems, shows the variety of laminar air flow devices now available, and illustrates the application of such devices to industrial processes, research and development problems, and to the field of medical care and medical research.

Desalting the Seas *(17 min., sd., color, 16 mm., 1967, $67.50, USAEC)* Describes the various methods of purifying saline waters through the use of nuclear energy, with particular emphasis on large-scale dual purpose nuclear-electric desalting plants which purify water and produce large amounts of electric power simultaneously.

Farm Fresh to You *(14 min., sd., color, 16 mm., 1966, $57.00, USAEC)* Describes the preservation of fresh fruits and vegetables by radiation pasteurization, presenting evidence that spoilage can be reduced through the use of nuclear energy. Explains the process of exposing foods to the energy of the atom, using animation to show what happens during exposure.

The Fresher the Better *(14 min., sd., color, 16 mm., 1966, $56.00, USAEC)* Uses animation to introduce the concept of radiation preservation of food, and to explain the process and its results. Describes the preservation of fresh seafoods by radiation pasteurization and shows actual research being performed and products being processed by the Marine Products Development Irradiator.

Industrial Applications of Nuclear Explosives *(11 min., sd., color, 16 mm., 1958, $48.50, USAEC)* Compares nuclear and chemical explosives in such projects as harbor development, economical recovery of low-grade ore bodies, release of petroleum from oil shale, underground production of steam to generate power, and development of large underground reservoirs in arid areas.

Industrial Applications of Radioisotopes *(57 min., sd., color, 16 mm., 1961, $175.00, USAEC)* Surveys the current uses of radioisotopes throughout American industry. Describes and shows examples of three major areas of use—nuclear gauging (thickness, density, and level), radiography and tracing. Covered briefly are luminescence, static elimination, isotopic power, and uses of high-intensity radiation. Uses animation to explain basic principles. Includes examples of in plant uses.

Introduction to Analog Computers *(120 min., sd., color, 16 mm., 1963, $346.50, USAEC)* A film lecture on analog computers by Dr. L. C. Just of Argonne's Applied Mathematics Division. Discusses the programming techniques and components of an electronic analog computer. Presents the solutions to typical computer problems.

Man and the Atom *(59 min., sd., color, 16 mm., 1965, $198.00, USAEC)* Surveys the role of the Atomic Energy Commission in the Nation's atomic energy program. Interviews members of the community of Buchanan, N.Y., site of Consolidated Edison's Indian Point atomic power station, pointing out the attitude of the community towards the atomic plant. Reviews the atom's place in national defense, and shows the mining of uranium and processing into fissionable materials. Reviews some aspects of the peaceful uses of nuclear explosives; surveys radioisotopes and their many applications; discusses the SNAP program; explores some aspects of high energy physics; and concludes with statements by Dr. Glenn T. Seaborg concerning the future of the nation's atomic energy program.

Man and Radiation *(40 min., sd., color, 16 mm., 1963, $98.00, USAEC)* Describes many aspects of radiation and presents a survey of the widespread application of radiation in medicine, industry, agriculture, power, and research. Uses animation to explain the different types of radiation and the alpha, beta, and gamma rays. Discusses radiation studies in photosynthesis using radio chromatography, as well as AEC's research on food preservation through irradiation, the Army's projects, and the use of irradiation to produce plastics in wood.

Opportunity Unlimited: Friendly Atoms in Industry *(29 min., sd., color, 16 mm., 1962, $95.50, USAEC)* Surveys the widespread industrial uses of radioisotopes. Combines animation and live action to explain what radioisotopes are and how they are used to gauge thickness of nylon cord-rubber ply for automobile tires, sheet plastic, and cord-rolled alloy sheets for computers and space-age instruments, as well as to measure fat content, sugar content in applesauce, and moisture content in soil. Investigates industrial radiography with radioisotopes. Explains the use of radioisotope tracers for engine-wear studies, product movement in oil pipelines, and leak detection in pipelines.

Plowshare *(28 min., sd., color, 16 mm., 1965, $185.50, USAEC)* Uses motion pictures and animation to explain the development and aims of the Plowshare Program, the Atomic Energy Commission's program for the safe use of nuclear explosives for civilian applications. Discusses the potential uses of nuclear explosives for mining, earth-moving and excavation projects, and scientific investigations.

Project Dugout *(9 min., sd., color, 16 mm., 1964, $65.25, USAEC)* A semi-technical report on Project Dugout, a chemical high explosive experiment conducted June 24, 1964, at the Nevada test site in the Atomic Energy Commission's Plowshare Program. Describes the purpose and objectives of the experiment, previous work with single-charge underground explosions, preparations for the detonation, the detonation, and resulting row crater. Shows the moment of detonation in regular and slow motion and from several vantage points.

Project Gasbuggy: The Resourceful Atom *(15 min., sd., color, 16 mm., 1968, $78.25, USAEC)* Describes a project, involving government and industry, to study whether nuclear explosions can be safely used to perform massive underground engineering tasks for more efficient recovery of natural resources. Uses art and animation to point out the results of a test performed in New Mexico in early 1968.

Project Gnome *(29 min., sd., color, 16 mm., 1963, $159.25, USAEC)* A discussion on Project Gnome, the first nuclear detonation conducted under the Atomic Energy Commission's Plowshare Program for the development of peaceful uses of nuclear explosives, from its planning stage through the early months of the post-detonation period, until scientists entered the man-created cavern in May 1962. Uses animation to explain the scope of Project Gnome and its integrated scientific and technical programs. Features D. Edward Teller, a Nobel Prize nuclear physicist, discussing the objectives and results of the Plowshare Program and Project Gnome

Project Gnome Technical Report *(19 min., sd., color, 16 mm., 1964, $95.25, USAEC)* A technical report on Project Gnome, the first experiment of the Atomic Energy Commission's Plowshare program to study peaceful applications of nuclear explosives. Uses animation to illustrate the basic goals of the program. Discusses the phenomenology of a nuclear explosion in a dry salt medium, power and isotope production studies, and neutron physics experiments.

Project Sedan *(8 min., sd., color, 16 mm., 1962, $54.75, USAEC)* A semi-technical film report on Project Sedan, the nuclear cratering detonation of July 1962—the first of a series of experiments under the Atomic Energy Commission's Plowshare Program to determine the feasibility of nuclear excavations. Discusses the relationships between depth of explosion to crater size and to containment of radioactivity. Features slow motion shots of the detonation. Relates the experiment to possible large-scale excavation projects such as harbors and canals.

Radioisotopes: Safe Servants of Industry *(28 min., sd., color, 16 mm., 1963, USAEC)* Surveys the widespread industrial uses of radioisotopes. Presents animated explanations of the principles involved in radioisotope gauging instruments, tracing, and radiography. Shows an application of the principles involved in various processes, as observed in the food industry, in automotive research, in road construction, in heavy industry, in oil refining and shipping, and in system troubleshooting.

INTERNATIONAL RELATIONS

Atoms for the Americas *(28 min., sd., color, 16 mm., 1963, $94.50, USAEC)* A semi-technical study of the Puerto Rico Nuclear Center, its curriculum and research program. Discusses courses in the fields of biology, chemistry, medicine, nuclear engineering and technology, health physics, agriculture, and marine biology which are offered to aid the Latin American nations in developing skills essential for research work in the laboratories at the University of Puerto Rico's College of Agriculture and Engineering and aboard the Center's oceanographic ship.

Atoms for Peace: Geneva—1958 *(15 min., sd., b&w, 16 mm., 1959, $30.00, USAEC)* A non-technical film report on United States participation in the Second International Conference on the Peaceful Uses of Atomic Energy, held at Geneva in 1958. Discusses the technical papers program, the Atoms-for-Peace Commercial Exposition, and the four major areas of the United States Technical Exhibit.

NUCLEAR REACTORS AND POWER

Army Package Power Reactor *(25 1/2 min., sd., color, 16 mm., 1957, $82.50, USAEC)* This semi-technical film documents the inception, design, construction, initial operation, and dedication of the APPR-1, a prototype reactor utilizing components all transportable by air. Animation is used to illustrate its operation.

Atomic Power Today *(15 min., sd., color, 16 mm., 1967, $58.25, USAEC)* Explains the growing need for electricity and contrasts conventional methods of generating electricity with nuclear technology. Pictures how a nuclear power plant is designed, built, and operated for safe, dependable service. Points out the Atomic Energy Commission's regulatory and licensing procedures in regard to nuclear plants.

Atomic Power Today: Service with Safety *(29 min., sd., color, 16 mm., 1966, $97.75, USAEC)* Discusses the low cost, dependability, and safety aspects of atomic power, in comparison with water power and fossil fuels. Follows the building of a nuclear power plant from the utility company's application to the Atomic Energy Commission to the completion and operation of the plant. Shows a sampling of atomic power plants and the communities which they serve throughout the nation.

Basic Principles of Power Reactors *(9 min., sd., color, 16 mm., 1962, $39.50, USAEC)* An animated film which discusses nuclear-power reactors and how they produce steam for the generation of electricity. Describes fission, controlled chain reaction, and the function of basic reactor components (e.g., core, reactor vessel, shielding, moderators, coolants, and control rods).

Bonus for Puerto Rico *(20 min., sd., color, 16 mm., 1967, $76.25, USAEC)* Discusses the joint arrangements between the U.S. Atomic Energy Commission and the Puerto Rico Water Resources Authority for construction and operation of a small, unique nuclear power station, the Boiling Nuclear Superheat Reactor, in Puerto Rico. Shows the plant in operation and compares nuclear superheat reactors with other types.

BORAX: Construction and Operation of a Boiling Water Reactor *(14 min., sd., b&w, 16 mm., 1955, $25.50, USAEC)* Shows the construction and operation of a boiling-water power reactor, and explains how electricity produced from this reactor was used experimentally for an hour in the summer of 1955 for light and power in Arco, Idaho, the first U.S. community to be lighted exclusively on a city-wide basis by atomic power.

The Day Tomorrow Began *(30 min., sd., color, 16 mm., 1967, $97.00, USAEC)* Describes and traces the history of the building and testing of CP-1, the first atomic pile, and the work of the scientific team which achieved the first sustained chain reaction on Dec. 2, 1942.

Dresden Nuclear Power Station *(15 min., sd., color, 16 mm., 1958, $69.50, USAEC)* Surveys the construction of the 180,000 kilowatt Dresden Nuclear Power Station near the confluence of the Kankakee and Des Plaines Rivers in Grundy County, Illinois. Includes scenes of the fabrication of the 350-ton reactor pressure vessel and other components. Includes aerial views and closeups of the construction of the 190-foot-diameter containment sphere for the reactor.

Experimental Breeder Reactor I, Mark 3 *(14 min., sd., color, 16 mm., 1958, $75.25, USAEC)* Presents some major aspects of the fabrication, installation, and operation of a new core (Mark 3) for the Experimental Breeder Reactor I at the National Reactor Testing Station, Idaho.

Fast Reactor Program *(36 min., sd., color, 16 mm., 1958, $150.00, USAEC)* Presents an abstract of the major features of the fast reactor program in the areas of reactor performance, safety and reliability, system components, and fuel-cycle developments.

Gas Cooled Reactor Experiment *(39 min., sd., color, 16 mm., 1960, $133.00, USAEC)* Describes the design development, component fabrication, assembly, testing, and initial criticality of the first direct- and closed-cycle gas-cooled reactor.

Hallam Nuclear Power Facility *(20 min., sd., color, 16 mm., 1963, $78.25, USAEC)* Shows the construction of the reactor at Hallam, Nebraska, built jointly by the Atomic Energy Commission and the Consumers' Public Power District of Nebraska. Uses animation to illustrate the plant operation and live footage to show the construction of the reactor containment vessel, its transportation from Philadelphia to Hallam, the fabrication of installation, and the operation of various components.

Homogeneous Reactor Experiment 2 *(19 min., sd., color, 16 mm., 1958, $88.25, USAEC)* Surveys the components, facilities, and operations of an aqueous homogeneous, forced-circulation, experimental power reactor operating with a dilute solution of uranyl sulfate in heavy water as fuel, and with a heavy-water reflector.

In-pile Loop Tests of Homogeneous Reactor Materials *(25 min., sd., color, 16 mm., 1958, $104.00, USAEC)* Describes a typical in-pile loop experiment in the radiation-corrosion program of the Homogeneous Reactor Project at the AEC's Oak Ridge National Laboratory. Particular emphasis is given to the equipment and experimental procedures used in evaluating effects of nuclear radiation on corrosion of metals and alloys exposed to an approximation of the environment in a circulating-fuel aqueous homogeneous reactor.

Molten Salt Reactor Experiment *(20 min., sd., color, 16 mm., 1968, $77.75, USAEC)* Uses animation to describe the design, construction, and operation of the molten salt reactor experiment. Discusses the possibility of using molten-salt reactors as thermal breeders.

Nuclear Power in Air Defense Command *(7 min., sd., color, 16 mm., 1963, Order No. FR 311, $24.50, USAF)* Presents the success story of PM-1, the first portable nuclear power plant to supply heat and electrical power for remote radar sites. Describes the shipment of components to Sundance Air Force Station, the assembly of the plant and the radiological monitoring of the reactor prior to full operation. Explains and demonstrates the plant's radiation safety features. Explains that the site operates efficiently, economically, and self-sufficiently. Cleared for TV.

The New Power *(45 min., sd., color, 16 mm., 1967, USAEC)* Explains how the National Reactor Testing Station in Idaho is furthering the Atomic Energy Commission's quest for economic nuclear power. Describes more than 40 experimental nuclear reactors.

The Nuclear Ship Savannah *(10 min., sd., color, 16 mm., (Short Version), $37.75, USAEC) (29 min., sd., color, 16 mm., 1964 (Long Version), $97.75, USAEC)* Reviews America's maritime growth, starting with May 22, 1819, and the story of the S. S. Savannah. Explains the design of the N. S. Savannah and its atomic reactor and propulsion system; covers various phases of the ship's construction and the assembling and testing of the reactor; describes the special training of the crew; shows the sea trials of the ship; and follows the trip of the N. S. Savannah to her first port of call at Savannah, Ga., followed by other voyages. Includes a statement by President Lyndon B. Johnson on the significance of the nuclear ship Savannah.

OMRE Fuel Element Removal and Second Core Loading *(15 min., sd., color, 16 mm., 1959, $65.00, USAEC)* A report of the Organic Moderated Reactor Experiment, an experimental nuclear power project conducted by Atomics International for the AEC at the National Reactor Testing Station, Idaho.

Operating Experience—Dresden *(10 min., sd., color, 16 mm., 1964, $36.50, USAEC)* A report on the routine-day-to-day operation of the Dresden Nuclear Power Station, reviewing the success of the operating experience of the boiling water nuclear-electric power station in terms of dependability, safety, and ease of operation and maintenance.

Operating Experience—Hallam *(10 min., sd., color, 16 mm., 1964, $32.25, USAEC)* Describes the operation of the 79-megawatt electric Hallam Nuclear Power Station which is powered by a 252-megawatt sodium-graphite reactor. Demonstrates Hallam's heat transfer cycle and plant-operation features, including fuel transfer and sodium handling.

Operating Experience—Indian Point *(10 min., sd., color, 16 mm., 1964, $33.75, USAEC)* Surveys the design, construction, and operation of the Indian Point power station which serves metropolitan

New York. Describes and explains some of the theoretical concepts and operating characteristics of the world's first station to use thorium as the fertile material. Includes core experiments, core design and models, as well as scenes of the operational plant facilities.'

Operating Experience—Yankee *(10 min., sd., color, 16 mm., 1964, $40.50, USAEC)* Examines the various plant features and performance data of the nuclear power station that is operated by the Yankee Atomic Electric Company.

Organic Moderated Reactor Experiment *(16 min., sd., color, 16 mm., 1958, $78.50, USAEC)* This film presents a pictorial summary of the fabrication and operation of the OMRE facility at the USAEC's National Reactor Testing Station, Idaho, being conducted by Atomics International to investigate the use of organic materials as a reactor coolant, for transferring heat and for moderating neutrons. The film also depicts the technique of melting the organic moderator and methods of monitoring.

The Piqua Nuclear Power Facility *(23 min., sd., color, 16 mm., 1963, $79.25, USAEC)* A discussion of the Piqua, Ohio nuclear power facility, the first municipally-owned power plant using steam produced by an Atomic Energy Commission nuclear reactor. Uses animation to compare the organic-moderated Piqua reactor to the liquid metal sodium graphite reactor at Hallam, Nebraska, and the pressurized water reactor at Shippingport, Pennsylvania. Includes live action footage showing the testing, design, and construction of the Piqua facility.

PM—1 Nuclear Power Plant *(20 min., sd., color, 16 mm., 1962, $75.50, USAEC)* A report of the PM-1 nuclear power plant (a pressurized water system), a joint project of the AEC and the Air Force which supplies the power for the radar and space heating of a remote Air Defense Command radar station in Wyoming. Gives details on major components and the design and operation of the system.

PM—3A Nuclear Power Plant—Antarctica *(20 min., sd., color, 16 mm., 1963, $79.25, USAEC)* A semi-technical film account of the first atomic power station in Antarctica, the PM-3A. Gives details on the plant's pressure vessel, coolant, nuclear fuel, control rods, switchgear, heat-transfer equipment, turbogenerator, and other major components. Includes shots of the erection and testing of the reactor in the states, and preparation of the site in the Antarctic by the Seabees.

Power and Promise *(29 min., sd., color, 16 mm., 1959, $121.00 USAEC)* Tells the story of the atomic power reactor at Shippingport, Pa.

Power Reactor Experience in the United States *(30 min., sd., color, 16 mm., 1964, $94.00, USAEC)* A survey of the current status of power reactor development in the United States, with particular emphasis on the economic aspects and the development of the privately-owned nuclear power industry. Discusses the relationship of economic factors to fuel burnup, power levels, containment, and similar design limits. Explains how increased design limits have allowed light water reactors to compete with fossil-fueled plants. Discusses breeder reactors, thorium and plutonium recycle techniques, and chemical and spectral shift reactor controls.

Power Reactors—USA *(55 min., sd., color, 16 mm., 1958, $200.00, USAEC)* Reviews the U. S. power reactor program, using live action and animation photography. Shows major developments in the technology of the pressurized-water, boiling-water, homogeneous, organic-moderated, sodium-graphite, and fast-breeder concepts.

Principles of Thermal, Fast, and Breeder, Reactors *(9 min., sd., color, 16 mm., 1963, $35.00, USAEC)* Uses animation to explain nuclear fission, chain reaction, and how to control this reaction in three basic types of reactors. Describes the principles of fast, thermal, and breeder reactors. Discusses the plutonium and thorium cycles, and the concepts of the moderator and reflector.

Reactor Safety Research *(15 min., sd., color, 16 mm., 1964, $60.50, USAEC)* Shows the characteristic, conservative design of nuclear power reactors and the elaborate safeguards that are incorporated into the design. Examines the progress of reactor safety research in studies of abnormal nuclear behavior, fission product release, chemical reactions, containment, and vapor cleanup systems.

Remote Maintenance of Molten Salt Reactors *(20 min., sd., color, 16 mm., 1960, $101.00, USAEC)* Illustrates the arrangement of a mock-up fluid-fuel reactor system approximately 20 Mw(t) in size and the remote operation of specialized equipment utilized to maintain reactor components.

Remote Repair and Modification of the HRE—2 Core Vessel *(20 min., sd., color, 16 mm., 1961, $71.50, USAEC)* Illustrates the remote repair and modification of the homogeneous reactor experiment no. 2 (HRE-2) core vessel following the formation of two holes that permitted the transfer of fuel to the blanket side of the reactor.

Sodium Reactor Experiment *(22 min., sd., color, 16 mm., 1958, $115.25, USAEC)* Presents a summary of the preparation, fabrication, and testing of major reactor components, showing installation at the site, the startup, operation, and control as well as safety elements of the sodium reactor experiment (nuclear power) designed, constructed, and operated for the AEC by Atomics International near Los Angeles.

Sodium Reactor Experiment Fabrication *(19 min., sd., color, 16 mm., 1957, $89.00, USAEC)* Shows the fabrication and testing of major reactor components for the sodium reactor experiment (SRE). Explains fuel element fabrication and testing, grid plate fabrication, control rod system testing, core tank fabrication, thermal shield ring fabrication, top plug fabrication, sodium pump inspection, heat exchanger and coolant piping inspection, and fuel handling system checkout.

Thorium—U233 Utilization *(13 min., sd., color, 16 mm., 1964, $55.50, USAEC)* A technical discussion on the use of Thorium-U233 as fertile material in commercial fabrication of ceramic uraniathoria. Previews technical developments in fuel and reactor concepts, such as the molten salt experiment, and the preparation of the first Uranium 233 enriched thorium fuel by the Sol-Gel process.

Tomorrow's Power—Today *(6 min., sd., color, 16 mm., 1964, $26.50, USAEC)* A non-technical film on the principles of atomic power production, explaining why the energy of the atom is used to supplement conventional fossil fuels. Uses animation to demonstrate how nuclear fission creates heat and how that heat is converted into electrical power. Compares the energy released by the uranium atom to that released by coal, gas, and oil. Locates and gives the kilowatts produced by representative atomic power plants in the United States.

Under Way *(20 min., sd., color, 16 mm., 1960, $105.00, USAEC)* A non-technical film tracing the design and construction of the first United States nuclear-powered merchant ship, the N. S. Savannah. Describes the safety features of the ship and the christening and launching.

NUCLEAR RESEARCH

The Many Faces of Argonne *(60 min., sd., color, 16 mm., 1963, $185.00, USAEC)* A survey of the multi-activities conducted by the Argonne National Laboratory. Discusses the work of the CP-5 reactor, the experimental breeder reactor II, and the zero gradient synchrotron accelerator. Gives information on methods of protecting atomic scientists from radiation. Describes a wide range of experimental studies, including studies of the effects of radiation, studies of neonatal death rates, studies of leukemia, and "color center" studies on the structure of crystals.

Miracle in the Desert: The Story of Hanford *(28 1/2 min., sd., color, 16 mm., 1966, $107.00, USAEC)* Tells the story of the development during World War II of the Hanford Engineer Works in Southeastern Washington. Construction of the billion dollar plant was based on the discovery of a microscopic bit of the new element 94, plutonium, in California by Dr. Glenn T. Seaborg, now chairman of the AEC, and others, in 1941, and on the demonstration of the first successful nuclear chain reaction in Chicago by Dr. Enrico Fermi and others, in 1942.

Oak Ridge National Laboratory and its Scientific Activities *(17 min., sd., color, 16 mm., 1967, $72.25, USAEC)* Surveys the numerous and varied activities and facilities at the Atomic Energy Commission's Oak Ridge National Laboratory, including activities involving nuclear research, fundamental and applied research in all fields of science, and research on the central technical problems of society.

Of Man and Matter *(29 min., sd., color, 16 mm., 1963, $155.00, USAEC)* Describes the design, development, and operation of the alternating gradient synchrotron at the Brookhaven National Laboratory. Demonstrates the function of various major components of the accelerator and explains how high energy protons produced in the machine are used in physical research. Shows an experiment in which photographs taken of the interaction between particle beams and the target nuclei are scanned and analyzed. Features a lecture by a Brookhaven physicist on the importance of alternating gradient synchrotrons.

Sandia Spinoff *(15 min., sd., color, 16 mm., 1967, $63.75, USAEC)* This film demonstrates how high reliability requirements in the U. S. nuclear weapons program have resulted in scientific developments at AEC's Sandia Laboratory which have peaceful "spinoff" applications for hospitals, industry, etc.

Solar Eclipse Expedition, 1966 *(32 min., sd., color, 16 mm., 1967, $154.25, USAEC)* Follows the solar eclipse expedition of 1966 as it chases the moon's shadow across the South Atlantic Ocean during the eclipse. Uses animation to explain what scientists look for when they study the sun's corona during an eclipse. Describes the three major experiments made during the trip as well as the various types of equipment used.

Tomorrow's Scientists at Argonne *(14 min., sd., color, 16 mm., 1965, $57.25, USAEC)* Describes briefly the program of the 16th National Science Fair-International at St. Louis and shows winners of the USAEC Special Award who were selected at the science fair program during their Nuclear Research Orientation Week at Argonne National Laboratory near Chicago. Includes highlights of science projects, scenes of research and development facilities at Argonne, and a discussion of the challenges that await young scientists today.

The Worlds Within *(29 min., sd., color, 16 mm., 1963, $80.25, USAEC)* A non-technical description of the design, construction, and use of the Stanford linear accelerator. Presents a background account on the development of the accelerator and a discussion on the theory of its operation and the problems encountered in its construction and use. Examines the fabrication and testing of a two-mile long copper tube through which atomic particles will be fired, and of high-power radio tubes, called klystrons, which are used to project electrons down the tube. Compares various methods of projecting particles of minute dimensions.

NUCLEAR WEAPONS AND TESTING

The Atom Strikes *(31 min., sd., b&w, 16 mm., Order No. MF 5-1235, $53.50, USA)* Gives an account of the first experimental atomic bomb blast in New Mexico, aerial views of Hiroshima and Nagasaki bombings, and close-up shots of devasted areas.

Atomic Tests in Nevada *(25 min., sd., color, 16 mm., 1955, $105.00, USAEC)* Describes the testing of atomic weapons at the Atomic Energy Commission's Nevada test site, with emphasis on measures to protect the public.

Environmential Testing at Sandia *(28 min., sd., color, 16 mm., 1964, $88.00, USAEC)* A semi-technical discussion on the natural and induced environments affecting the reliability of weapon components and systems between their manufacture and use. Includes a series of test sequences showing some of the facilities of the Atomic Energy Commission's installation at Sandia Laboratory.

Operation Crossroads *(27 min., sd., color, 16 mm., Order No. MN 6817, $91.25, USN)* Documentary film record of the Able and Baker atomic bomb tests at Bikini.

Operation Greenhouse *(25 min., sd., color, 16 mm., 1952, $84.75, USAEC)* Describes the scientific and technical operations of the Atomic Energy Commission during the nuclear weapons tests at Eniwetok in the spring of 1951. Depicts blast and thermal effects of the explosions on different types of structures.

Operation Ivy *(28 min., sd., color, 16 mm., 1954, $130.00, USAEC)* This nontechnical film, for intermediate through college-level audiences, documents the "Mike" thermonuclear test at the USAEC Pacific Proving Grounds in 1952. It includes introductory remarks by former President Dwight D. Eisenhower.

Operation Long Shot *(13 min., sd., color, 16 mm., 1966, $53.00, USAEC)* Reports on an underground nuclear test in the fall of 1965 in the Aleutian Islands which was part of the Vela uniform series of experiments to increase U. S. capability to detect, identify, and locate underground nuclear detonations at intercontinental ranges. Follows the steps involved in Operation Long Shot to investigate the possible travel-time anomalies associated with seismic events occurring in island-arc structures.

Operation Sandstone *(18 min., sd., color, 16 mm., 1950, $61.75, USAEC)* Describes the preparation for the test detonations of atomic bombs at Eniwetok in the spring of 1948, and pictures the three detonations.

Project Shoal *(18 min., sd., color, 16 mm., 1964, USAEC)* A non-technical film on the underground Project Shoal detonation, an experiment conducted by the Department of Defense with the participation of the Atomic Energy Commission. Describes the selection of the test site near Fallon, Nevada; the pre-shot preparations to insure public safety and to inform the citizens of Fallon of the proposed shot; the reaction of various city groups to the test; the seismic station program; instrumentation; and the results of the detonation.

Target Nevada *(16 min., sd., color, 16 mm., 1953, $55.00, USAEC)* This non-technical film, for all audience levels, describes Air Force interest and participation in tests at the USAEC Nevada Test Site.

Underground Nuclear Weapons Testing *(29 min., sd., color, 16 mm., 1967, USAEC)* Shows how underground tests of nuclear weapons are planned and conducted at the Nevada test site in a manner designed to contain radioactivity within the ground and to comply with the limited test ban treaty, while providing the diagnostic information needed. Explains various types of nuclear tests and the use of various test areas and their facilities.

Vela Program: Satellite Detection System *(17 1/2 min., sd., color, 16 mm., 1964, $62.00, USAEC)* This technical film explains the nature of the atmosphere surrounding our planet and the problems involved in analyzing nuclear explosions beyond the earth's atmosphere. Describing the basic circuits and problems involved in developing a series of satellites for detecting nuclear radiation, it further illustrates the manufacturing and testing of the detection system and summarizes the future of the satellite detection program.

PHYSICAL RESEARCH

Analysis of Nucleon—Nucleon Scattering Experiments *(50 min., sd., color, 16 mm., 1961, $285.50, USAEC)* This filmed lecture by Dr. H. Pierre Noyes is intended primarily for use in a graduate course in, or a seminar on, nuclear physics. It attempts to give an overall picture of the route followed in passing from single-, double-, and triple-scattering experiments to a unique description of the scattering matrix in terms of phase shifts. Although the formal mathematics introduced is kept to a minimum, it presupposes that the student knows what a wave function is, how probability-current is computed from a wave function, and what is meant by a quantum-mechanical state.

The Basic Physics of an Atomic Bomb *(19 min., sd., color, 16 mm., Order No. MF 20-7896, $65.00, DOD)* Explains the basic principles of atomic energy and the atomic bomb, including atomic numbers, isotopes, half-life, fusion, fission, chain reaction, and critical mass. Primarily animation.

Development and Fabrication of HFIR Target Elements *(15 min., sd., color, 16 mm., 1967, $51.75, USAEC)* Depicts the design and development of High Flux Isotope Reactor target elements for the nation's transuranium program. Traces the development of suitable manufacturing processes showing the remote manufacture of target elements at Oak Ridge National Laboratory's transuranium Processing Plant and the processing of the desired transuranium isotopes.

Dispersion Theory Approach to Nucleon-Nucleon Scattering *(45 min., sd., color, 16 mm., 1961, $302.25, USAEC)* A film lecture on nuclear physics by Professor H. Pierre Noyes. Outlines some of the main ideas and techniques which are used in the calculation of the nucleon-nucleon scattering matrix from its analytic properties and unitarity. Includes a discussion of the S-wave Schroedinger and Volterra equations, the N/D method, the Mandelstam representation for scattering and double-spectral function, theoretic and non-relativistic scattering amplitudes, and nucleon electromagnetic structure.

Effects of Atomic Bomb Explosions *(18 min., sd., b&w, 16 mm., Order No. MF 20-7815, $32.00, DOD)* Explains the differing effects of the various types of detonations, the relative importance of blast effects, and the thermal and nuclear radiations in each type of explosion. Produced under the supervision of the Armed Forces Special Weapons Project.

Fabrication of the Accelerator Structure *(40 min., sd., color, 16 mm., 1965, $133.75, USAEC)* This film describes the methods used in the fabrication of the accelerating structure and associated components for the AEC's two-mile linear electron accelerator at Stanford University.

First Chemical Separation of Lawrencium *(17 min., sd., color, 16 mm., 1968, $118.00, USAEC)* The film shows the preparation for the chemical separation of Lawrencium, the rapid performance of the chemical separation before the radioactive Lawrencium transmutates into another element. Finally, a detailed description of the separation chemistry, as well as an explanation of the overall experiment and its significance, is given by the research chemist who first chemically sparated Lawrencium.

Fusion Research *(22 min., sd., color, 16 mm., 1964, $74.75, USAEC)* A technical discussion of the nature of thermonuclear research through studies of plasma production and confinement. Gives a qualitative description on the obstacles to investigative success such as plasma oscillations and plasma and energy losses. Describes plasma measurements and research devices in plasma studies.

High Energy Particle Accelerators *(30 min., sd., color, 16 mm., 1958, $148.00, USAEC)* Surveys the work of particle accelerators in high-energy physics, shows the major accelerator installations in the United States, the major accelerators under construction, and a series of typical experiments with high-energy particles. Explains, with live action and animation, the components and operations of various types of accelerators and gives a description of bubble chambers.

The High Energy People *(5 min., sd., color, 16 mm., 1963, $21.00, USAEC)* A brief description of the problems and tools of high energy physics as illustrated by the results of work with the zero gradient synchrotron, the spark chamber, and the automatic camera. Examines and analyzes photographs of tracks of sub-atomic particles which were taken by an automatic camera.

High Energy Physics Research *(23 min., sd., color, 16 mm., 1964, $75.00, USAEC)* A technical discussion disclosing the current understanding of subnuclear particles and nuclear forces as revealed by studies conducted on some 20 very high energy accelerators. Surveys the status of high energy physics research in the United States.

Link *(8 min., sd., color, 16 mm., 1967, $30.00, USAEC)* Explains that current experiments in high energy physics involve the analysis of immense quantities of data and describes the experimental computer approach used in these experiments. Discusses the LINK program and demonstrates the use of a CDC-3600 computer to generate orchestral sounds as background music.

Neutron Activation *(8 min., sd., color, 16 mm., 1964, $30.00, USAEC)* Describes the analytic techniques which are involved in measuring the presence of radioactive elements from a substance irradiated with neutrons.

Neutron Diffraction *(9 min., sd., color, 16 mm., 1964, $35.00, USAEC)* A technical description of the principles of neutron diffraction and the new fields of investigation involving diffraction effects. Compares wave lengths of thermal neutrons to X-rays used in the study of crystal structures, and contrasts their different scattering processes. Discusses the usefulness of neutron diffraction studies in determining the positions of light atoms in the crystal structure and in providing a unique technique for the study of magnetic orientation.

Neutron Image Detector *(5 1/2 min., sd., color, 16 mm., 1965, USAEC)* The film describes a new vacuum tube developed by the Argonne National Laboratory Metallurgy Division and the Rauland Corporation, a subsidiary of Zenith Radio Corporation. The tube contains a neutron-sensitive screen one foot in diameter. It produces a brilliant image which may be viewed with a closed circuit television camera. Applications of the tube to neutron radiography and neutron motion pictures are illustrated.

Parachute Development at Sandia *(11 min., sd., color, 16 mm., 1967, $41.50, USAEC)* This semi-technical film shows innovations developed at Sandia Laboratory to solve problems which arise when parachutes are used to recover rockets and other test vehicles traveling at supersonic speeds. Both live action and animation are used to show parachute parts, materials developed to improve these parts, an invention to aid high-speed parachute deployment, and innovations in parachute design and packing. Rare test footage taken by on-board rocket cameras is included.

Persimmon: A Nuclear Physics Experiment *(16 min., sd., color, 16 mm., 1967, $108.25, USAEC)* Explains how the intense burst of neutrons produced by the underground detonation of a nuclear explosive can be used to perform a variety of nuclear experiments which are usually infeasible because of the need for a very high neutron flux or a hopelessly long-running time on an accelerator. Focuses on the various experiments which comprise the Persimmon event.

Radiation Effects in Chemistry *(13 min., sd., color, 16 mm., 1964, $46.25, USAEC)* A technical explanation of the chemical reactions which are initiated by radiation. Examines the sensitive and high-speed techniques, such as spectrometry and electron spin resonance, that are involved in the study of the mechanisms which produce these reactions.

RFD-2 *(14 min., sd., color, 16 mm., 1965, $50.25, USAEC)* This film outlines the design and test work performed by Sandia Corporation in assessing the nuclear safety aspects of a SNAP-19 type isotopic generator designed to supply electrical power in certain communications satellites. The film describes the flight of an inert reactor aboard a Scout rocket to investigate the burnup and disassembly of the dummy reactor upon re-entry. Shown are the instrumentation systems developed by Sandia to transmit to ground-based receiving stations information on the burnup of the reactor and its fuel rods.

Superconducting Magnets *(12 1/2 min., sd., color, 16 mm., 1967, $47.50, USAEC)* This film is an introduction to the many important areas of research and development that involve the use of large electromagnets. These large magnets require correspondingly large amounts of power and cooling equipment. By constructing these magnets with superconducting cable, it is possible to produce coils which require no power to operate.

Transcurium Elements: Synthesis, Separation and Research *(31 min., sd., color, 16 mm., 1965, $153.75, USAEC)* Discusses transcurium element research and the specialized separation work in research at the Lawrence Radiation Laboratory in Livermore and at the National Reactor Testing Station in Idaho. Follows in detail three basic transcurium research experiments at the Lawrence Radiation Laboratory—the first experiment illustrates the discovery of a new isotope of fermium of mass 257; the next shows the measurement of the neutron induced fission of eisteinium 253; and the third explains how 70 per cent of the world's supply of purified berkelium was formed into a crystal to concentrate its self-luminescent light.

Xenon Tetrafluoride *(6 min., sd., color, 16 mm., 1962, $22.25, USAEC)* Explains how chemists at Argonne National Laboratory have succeeded in making xenon combine chemically with flourine, thereby opening a new area for the study of chemical bonding. Shows preparation of the compound in the laboratory under special conditions of temperature and pressure. Discusses future experiments on forming compounds with rare gases.

RADIOISOTOPES—PRODUCTION AND HANDLING

Fundamentals of Radioactivity *(59 min., sd., b&w, 16 mm., Order No. PMF 5145-a, $102.00, USA)* A survey film, first of a series, explaining basic concepts in the field of nuclear physics necessary to an understanding of radioisotopes. Describes in detail the origins of nuclear radiation and the chain reaction of uranium as a means of producing radioisotopes. Primarily for technical use.

Isotopes *(20 min., sd., color, 16 mm., 1959, $81.50, USAEC)* Describes the production of stable isotopes and radioisotopes and the separation of fission products. Explains radioactivity, half life, and the three methods of producing radioisotopes. Uses live photography and animation to tell the story of radioisotopes production at the Oak Ridge National Laboratory.

The Mission Support During Radioactive Fallout: Disaster Control *(32 min., sd., b&w, 16 mm., Order No. TF 1-5302-a, $55.25, USAF)* Defines radioactive fallout and explains the characteristics of alpha, beta, and gamma rays. Shows the Disaster Control Officer how to prepare a base defense plan—covering the base disaster control center, communications, alternate facilities, monitoring equipment, decontamination facilities, shelters, security, hospital and medical facilities, food supplies, and weather service that will enable his installation to carry on its wartime mission during heavy radioactive fallout.

The Mission Support During Radioactive Fallout: Exposure Control *(12 min., sd., b&w, 16 mm., Order No. TF 1-5302-c, $22.25, USAF)* Explains the Disaster Control Officer's duties and responsibilities in the area of personnel safety, including computing radiation intensity scales and maximum allowable dosage, estimating radiation intensity in advance, co-ordinating flight line maintenance schedules, and other outside duties necessary in keeping radiation dosage of personnel to a minimum. Emphasizes personnel safety as a prime factor to assure operational efficiency during radioactive fallout.

The Mission Support During Radioactive Fallout: Fallout Shelters *(16 min., sd., b&w, 16 mm., Order No. TF 1-5302-b, $28.50, USAF)* Explains the necessity for good shelters in event of nuclear attack. Salient teaching points cover: evaluation and preparation of buildings at a typical air base as shelters; gamma rays and their characteristics; brick, concrete, lead and other materials and their effectiveness in absorbing gamma-ray energy; computation of material and distance attenuation rates; construction of shelters; and outdoor emergency shelters.

The Physical Principles of Radiological Safety *(51 min., sd., b&w, 16 mm., Order No. PMF 5145-e, $89.25, USA)* Explains the ionizing characteristics of alpha, beta, and gamma radiation; roentgen and roentgen measurement; maximum permissible exposure; formulas for calculation of exposure; problems of uniform and localized exposure; effect of physical decay and biological elimination on dosage rate; and concept of biological half-life and effective half-life.

Practical Procedures of Measurement *(48 min., sd., b&w, 16 mm., Order No. PMF 5145-c, $81.25, USA)* Explains the purposes of measurement for safety and for experimental purposes. Discusses the operational principles of the electroscope, ionization chamber, proportional counter, and particularly the Geiger-Muller counter. Explains the concepts of threshold value and plateau. Discusses briefly the mechanical recorder, scaler, and interpolation lights, and gives a simple exposition of counting statistics and the standard deviation.

Properties of Radiation *(68 min., sd., b&w, 16 mm., Order No. PMF 5145-b, $118.00, USA)* Explains the characteristics and properties of primary and secondary nuclear radiations in terms of their ionizing effects. Introduces concepts concerning the effect of matter on radiation so that absorbing materials can be used to measure radiation characteristics or to shield against their biological effects. Discusses terminology and presentation of data as a pre-requisite to practical measurement.

Radioisotopes in Agricultural Research *(41 min., sd., b&w, 16 mm., Order No. PMF 5147-b, $70.00, USA)* Explains the use of radioisotopes in agricultural research; traces the utilization of chemicals by plants and animals, and explains how the exact amounts needed are determined by radioactive chemicals; shows the manufacture of radioactive phosphate; and shows experiments using radioactive phosphate in fertilizer and radioactive cobalt in livestock.

Radioisotopes in General Sciences *(46 min., sd., b&w, 16 mm., Order No. PMF 5147-c, $78.00, USA)* Gives nine illustrations of the radioisotope as an important research tool adaptable to tracer investigations in all branches of general science, including metallurgy, chemistry, biochemistry, and plant physiology.

The Radioisotope: Methodology *(33 min., sd., b&w, 16 mm., Order No. PMF 5145-d, $56.75, USA)* Illustrates criteria of tracer methodology for radio-chemical purity; explains the importance in designing a tracer experiment, of economy of time and materials and of accuracy; and portrays a research team planning a typical tracer experiment (metabolism of the horse bean plant) in which appropriate criteria are observed.

Radiological Defense in Civilian-Manned Ships *(25 min., sd., b&w, 16 mm., Order No. MN 8923, $43.75, USN)* Describes the three forms of nuclear explosions and their effects. Discusses individual and ship protective measures against these effects, the organization of civilian-manned ships for radiological defense, securing ship, rigging and use of the MSTS (Military Sea Transportation Service) wash down countermeasure, and radiological monitoring and decontamination procedures in civilian-manned and merchant marine ships.

RESEARCH AND TEST REACTORS

Advanced Test Reactor *(9 min., sd., color, 16 mm., 1964, $33.25, USAEC)* Uses animation to show how the Atomic Energy Commission's 250-megawatt advanced test reactor design utilizes multiple flux traps to achieve high neutron density in nine independent test loop positions. Describes the clover leaf, enriched fuel annulus, and the moving control components of the test reactor.

Argonne Fast Source Reactor *(9 min., sd., color, 16 mm., 1960, $32.00, USAEC)* Explains that the fast source reactor is a laboratory source of neutrons—not an experimental reactor—with a power level of 1000 watts. Describes the reactor assembly and its usefulness as a readily available source of neutrons in a wide range of flux levels and flux spectra.

The Argonne Gamma Irradiation Facility *(20 min., sd., color, 16 mm., 1957, $59.25, USAEC)* Explains that the Argonne gamma irradiation facility utilizes the radiation from fission products to provide a gamma irradiation flux up to 2 million roentgens per hour for research purposes and that irradiation service is made available to private and governmental research organizations. Shows how the intense gamma rays from spent fuel elements removed from the MTR are used at Argonne for irradiation services and describes the arrangement for handling the fuel elements and the samples to be irradiated.

Armour Research Reactor *(16 1/2 min., sd., color, 16 mm., 1958, $74.25, USAEC)* This film shows the design, fabrication, and operation of the first private nuclear energy reactor designed specifically for industrial research—the 50,000-watt solution type reactor built by Atomics International for the Armour Research Foundation, Chicago.

Construction of the Argonne Research Reactor *(12 min., sd., b&w, 16 mm., 1956, $28.00, USAEC)* Shows some of the important stages in the construction of the Argonne research reactor, a heavy water reactor, operating at a normal power level of 1,000 kw. Illustrates many important design features by showing various stages in the construction of this reactor.

Construction of the Experimental Boiling Water Reactor *(10 min., sd., b&w, 16 mm., 1957, $24.50, USAEC)* Describes highlights of construction of the experimental boiling water reactor (EBWR) a nuclear power plant of 5,000 kw. electrical capacity and the first of the reactors in the AEC's nuclear power development program to be completed. Shows erection of the steel shell for the power plant, special concrete work, and installation of equipment, including the reactor pressure vessel.

Developing Homogeneous Reactors *(23 min., sd., b&w, 16 mm., 1956, $45.75, USAEC)* Describes some of the most important stages in the development, construction, operation, and dismantling of homogeneous reactor, experiment no. 1, which was designed to operate at 1,000 kw. Shows testing of the most important reactor features, steps in assembling the reactor, and operation of the reactor.

Engineering Test Reactor (Short Version) *(14 min., sd., color, 16 mm., 1958, $67.00, USAEC)* Discusses the design, construction, operations, and uses of the Atomic Energy Commission's nuclear test reactor at the National Reactor Testing Station in Idaho.

Engineering Test Reactor (Long Version) *(22 min., sd., b&w, 16 mm., 1958, $38.50, USAEC)* Describes the design, construction, operations, and some of the uses of the engineering test reactor, including serving as a research tool in the development of economic nuclear power by testing effects of intense neutron and gamma-ray bombardment on the engineering components of reactors under design.

The Experimental Boiling Water Reactor *(34 min., sd., color, 16 mm., 1957, $125.75, USAEC)* Presents an actual account of the operation of the reactor, beginning with the installation of the reactor components, with pressure vessel and other units in the steam cycle already in place, continuing through the assembly of the reactor components to the loading of the core, arriving at first critical, capping the reactor, first 10 mw. operation, then the generation of 5,000 kw. of electricity.

Fast Reactor Development *(17 min., sd., color, 16 mm., 1964, $58.50, USAEC)* A technical report on sodium-cooled fast breeder reactors. Discusses the design features of the Experimental Breeder Reactor II and the Enrico Fermi Atomic Power Plant. Describes the potential of fast breeder reactors in the nuclear power economy. Includes a brief history of the Experimental Breeder Reactor I.

MIT Research Reactor *(18 min., sd., color, 16 mm., 1958, $80.00, USAEC)* This film is a step-by-step record of construction of the world's first privately owned heavy-water research reactor, designed and built by ACF Industries, Inc., for the Massachusetts Institute of Technology. It is a 1000-kw heavy-water-moderated-and-cooled CP-5 type reactor, producing fluxes in excess of 10^{13} neutrons/cm^2/sec. It includes a special medical therapy room providing new approaches to nuclear medical research techniques. The film shows construction phases of the reactor, associated nuclear equipment, containment shell, and radiation shielding.

Naval Research Laboratory Reactor *(21 min., sd., color, 16 mm., 1958, $89.00, USAEC)* This semi-technical film is a guided tour through the Naval Research Laboratory's pool type, 100-kw research reactor facility in Washington. All visible components are pictured and described. Action includes startup, operation of controls, and underwater shots of the Cerenkov radiation. Composition of fuel elements, assembly of a core, and methods of exposing samples are explained by cutaway drawings and animation. Several experiments, representative of the type of research performed with the reactor, are described.

Oak Ridge Research Reactor *(20 min., sd., color, 16 mm., 1958, $89.00, USAEC)* Describes the components, facilities, uses and operation of the Oak Ridge research reactor—a tank type, heterogeneous reactor, immersed in a pool, designed to operate at 20 to 30 Mw.

Research into Controlled Fusion *(55 min., sd., color, 16 mm., 1958, $191.50, USAEC)* A technical progress report of the fusion research programs sponsored by the U. S. Atomic Energy Commission at Princeton University, Oak Ridge National Laboratory, Los Alamos Scientific Laboratory, and the University of California Radiation Laboratory. Outlines the principal problems in controlled fusion. Shows and describes research devices, including the various pinch, mirror, rotating plasma, DCX, and Stellarator machines.

Research Reactors—USA *(38 min., sd., color, 16 mm., 1958, $130.25, USAEC)* Uses live action and animation to present a summary of the major types of research reactors—swimming pool, tank, water boiler, and graphite moderated—with descriptions of their uses in research, industry, chemistry, physics, metallurgy, biology, and medicine.

Restoration of the NRX Reactor *(23 min., sd., b&w, 16 mm., 1959, $73.80, USAEC)* Describes the 14-month repair and restoration of the NRX reactor at Chalk River, Ontario, following a rapid superoperational power level excursion and discusses the 1959 safety system of the 40 Mw reactor.

SPERT Destructive Test-I (On Aluminum, Highly Enriched Plate-Type Core) *(15 min., sd., color with b&w sequences, 16 mm., 1965, USAEC)* Documents the destructive test program of a highly enriched, aluminum plate-type core in the SPERT-I reactor at the National Reactor Testing Station in Idaho. Discusses the initial phases of the program, describes transient testing into the region of limited core damage, and presents slow motion studies to show the effects of the final core destruction test on November 5, 1962. Shows in detail the post-destructive core disassembly and examination.

A Study of Grain Growth in BeO Using a New Transmitted Light Hot Stage *(16 1/2 min., sd., color, 16 mm., 1965, USAEC)* This film report (based on ceramics technology research conducted for the Fuels and Technology Branch, Division of Reactor Development and Technology, USAEC) depicts the design and operation of a new hot stage used with a polarizing microscope and transmitted light. Time-lapse color cinematography makes possible the observation of time-dependent reactions and structural changes in transparent crystalline materials at temperatures as high as 2000 °C. Sequences are shown of studies of thin sections of beryllium oxide ceramics at about 1700° C in vacuum. Movement of pores and grain boundaries, grain growth, and surface evaporation effects were seen.

Vallecitos Boiling Water Reactor *(8 min., sd., color, 16 mm., 1958, $38.50, USAEC)* Examines the operation of the General Electric Vallecitos boiling water reactor and Pacific Gas and Electric Company's turbine-generator installation. Includes views of the loading of the reactor, the interior of the reactor containment vessel, and the turbine-generator installation. Shows reactor start-up procedures, the operation of the reactor, and close-ups of control and instrumentation.

Zero Power Reactor 3 *(10 min., sd., color, 16 mm., 1959, $56.50, USAEC)* Illustrates the ZPR-3 operating methods to study fuel configurations and their effect upon critical assembly, particularly operation and current applications in the Argonne National Laboratory's fast reactor program.

SAFETY, WASTE DISPOSAL AND MONITORING

Air and Gas Cleaning for Nuclear Energy *(30 min., sd., color, 16 mm., 1964, $101.00, USAEC)* Discusses the need for, and development of high efficiency filters for the nuclear energy industry. Describes the manufacture of such filters and their inspection and testing. Surveys current research and development in the area of high efficiency mechanical air cleaning, including activities at Harvard Air Cleaning Laboratory, Oak Ridge National Laboratory, and Edgewood Arsenal.

Atoms on the Move: Transportation of Radioactive Materials *(24 min., sd., color, 16 mm., 1966, $81.50, USAEC)* Surveys the various means of transporting radioactive materials and the safety aspects underlying their packaging and handling. Shows typical shipments enroute by common carrier. Discusses responsibilities of various Federal, State, and local offices. Describes some aspects of safety research and development designed to limit the consequences of an accident involving these materials, and shows an accident situation and cleanup.

Beta Ray Spectrometer *(7 min., sd., color, 16 mm., 1963, $31.00, USAEC)* Uses animation and live action shots to explain the operating principles of the coincidence beta ray spectrometer, a device which is used to measure the intensity and direction of beta particle emissions. Demonstrates the assemblage of the components of the device and the masking for beam direction and size. Shows and explains the function of detectors.

Controlling Records Fires with High Expansion Foam *(13 min., sd., color, 16 mm., 1966, $45.25, USAEC)* This documentary film is a simplified description of high-expansion foam and its characteristics as a fire-fighting agent, particularly with respect to fires involving paper and photographic records in typical open file storage.

Experiments in Controlling Brush Fires with Detergent Foam *(6 1/2 min., sd., color, 16 mm., 1965, USAEC)* Grass, brush, and forest fires cause an annual loss in the United States of close to a quarter billion dollars. This film describes a series of tests by Argonne National Laboratory to explore the use of detergent foam as a fire break.

Fire Fighting in the Nuclear Age *(14 min., sd., color, 16 mm., 1960, $92.25, USAEC)* Emphasizes that radiation is just another hazard in fire fighting which can be handled with proper training; portrays techniques and procedures to be followed.

Fire Loss Management, Part II: Computer Installations *(20 min., sd., b&w, 16 mm., 1968, $36.50, USAEC)* Donald J. Keigher and Francis L. Brannigan, AEC Fire Protection Engineers, discuss the problems of fire protection of automatic data processing installations.

Fuel Element Burning Experiment *(14 min., sd., color, 16 mm., 1959, $101.00, USAEC)* Describes an experiment at the National Reactor Testing Station, Idaho, in which aircraft reactor fuel elements, together with other materials, were melted in a simulated aircraft crash. Explains that the experiment consisted of two phases—phase A used jet fuel as the combustible and phase B used Thermite to produce high temperature to assure melting, pointing out that in phase A melting did not occur and no radioactivity was released, and that in phase B, melting did occur, with the release of a small amount of activity (10,000 curies of fission products) in the National Reactor Testing Station out to a distance of 1/2 mile.

High Activity Waste *(17 min., sd., color, 16 mm., 1964, $53.25, USAEC)* Describes newly developed methods for disposing of high activity wastes from nuclear power industries. Discusses the techniques of solidifying high activity wastes until their volume is chemically inert and of producing glass-like solids from powdered wastes and from liquids; discusses the use of salt mines for disposal of solid wastes.

Kinetic Experiment on Water Boilers *(15 min., sd., color, 16 mm., 1958, $70.25, USAEC)* Discusses an AEC-sponsored study of the dynamic behavior of the homogeneous solution-type nuclear reactor, demonstrating the inherent safety characteristics of aqueous homogeneous reactors in the event of an unforeseen release of large amounts of reactivity.

Living with a Gloved Box *(15 min., sd., color, 16 mm., 1964, $88.75, USAEC)* Explains the principles and techniques of working with a gloved box, an enclosure designed for handling low-activity radioactive materials that are harmful if inhaled or ingested. Discusses the air flow and pressures within the box, the bagging in and bagging out of materials, the procedures for changing the filter, and a method for handling a fire within the gloved box.

Living with Radiation *(28 min., sd., color, 16 mm., 1958, $117.50, USAEC)* Discusses in detail the radiation-safety program of the national atomic energy program, using the procedures at AEC's National Reactor Testing Station in Idaho as the typical illustrative example. Covers the separation-distance factor; the storage and/or dispersal of radioactive wastes; protection of populations, water, crops, and livestock by air and environmental monitoring; protection of workers by film badges, protective clothing, radiation counters, shielding, remote-control devices, decontamination procedures, and biochemical studies.

Project Salt Vault *(11 min., sd., color, 16 mm., 1969, $49.25, USAEC)* The film shows equipment and procedures required for the permanent, safe, and economical disposal of high level radioactive wastes from nuclear power plants. Project Salt Vault deals with a two year study carried out by USAEC's Oak Ridge National Laboratory on the feasibility of permanent disposal of these high-level wastes in vacated salt mines, and the key steps in such disposal at an abandoned salt mine in Kansas.

Radiation in Perspective *(43 min., sd., color, 16 mm., 1963, $194.00, USAEC)* Summarizes some of the beneficial uses of radioactive materials in medicine, agriculture, industry, systems for nuclear auxiliary power, and food sterilization that justify acceptance of the hazard. Explains briefly the internal radiation problem and, in detail, the external radiation problem. Discusses the somatic and genetic effects, and makes a comparison of the acceptable-versus-dangerous levels for radiation with that of the levels for carbon monoxide to show the conservative nature of radiation regulations. Explains how time, distance, and shielding are used to control external radiation exposure.

R-A-P: Radiological Assistance Program *(27 min., sd., color, 16 mm., 1965, USAEC)* Re-enacts three radiological emergencies to show the readiness and proficiency of radiological assistance teams as they put to work their specialized professional skills and equipment in dealing with accidents involving radiological materials.

The Regulation of Atomic Radiation *(29 min., sd., color, 16 mm., 1963, $137.25, USAEC)* Surveys the work of the Atomic Energy Commission in licensing and regulating the use of nuclear materials. Examines the close control of radioactive materials from the time they leave the mines to be processed until they are again returned to the earth or to the sea as waste materials.

Research Reactor Safety Device *(12 1/2 min., sd., color, 16 mm., 1958, $55.50, USAEC)* As a significant step in reactor safety work, Atomics International has designed, built, and successfully tested a reactor safety "fuse," as part of the U.S. Atomic Energy Commission's reactor safety program. The device, designed to provide absolute protection by shutting down "pool" type reactors without the use of external controls, automatically and almost instantaneously shuts down research reactors if an abnormal operating condition occurs.

Safety Experiments with a Boiling Reactor *(20 min., sd., b&w, 16 mm., 1956, $38.50, USAEC)* Records a series of safety experiments with a prototype boiling water reactor consisting of a pressure vessel containing an assembly of uranium-bearing plates submerged in water plus a control mechanism. After showing a number of reactor excursions, some of which expel the water from the reactor, the film shows the deliberate destruction of the reactor assembly, when the reactor is allowed to "run away."

Safety in the Plowshare Program *(22 min., sd., color., 16 mm., 1966, USAEC)* Documents the safety precautions which are taken during experiments or projects in the U.S. program to develop peaceful uses of nuclear explosives, as described in the Atomic Energy Commission film "Plowshare." Shows how radioactivity and other effects of nuclear explosions are controlled in order to insure the public safety.

The SL-1 Accident, Phases 1 and 2 *(40 min., sd., color, 16 mm., 1962, $133.75, USAEC)* Uses actual and reenacted scenes to present a resume of what happened in phases 1 and 2 following the accidental nuclear excursion of January 3, 1961.

The SL-1 Accident, Phase 3 *(57 min., sd., color, 16 mm., 1962, $254.75, USAEC)* A documentary report on what was done with the SL-1 reactor and building following the accidental nuclear excursion that occurred January 3, 1961. Provides a step-by-step reenactment of the accident using animation to show the events believed to have taken place during and immediately following the excursion, and presents a postulation of the cause.

Spert 1: Reactor Safety Experiments *(32 min., sd., color, 16 mm., 1958, $127.50, USAEC)* A technical report on reactor safety investigations involving use of the special power excursion reactor test (SPERT), a tank type, atmospheric-pressure, heterogeneous reactor. Explains that SPERT was designed primarily for the study of reactor kinetics and safety parameters in functionally similar reactors. Illustrates a number of intentionally induced power excursions.

SRE Core Recovery Following Fuel-Element Damage *(30 min., sd., color, 16 mm., 1962, $94.50, USAEC)* Uses animation to describe the design, construction, and operation of the sodium reactor experiment near Santa Susana, California. Includes live on-the-spot scenes to show the circumstances which resulted in severe damage to the reactor in 1959 and the release of about 10,000 curies of fission-product activity. Discusses in detail the effective repair and recovery procedures that were employed, and stresses the importance of well-managed maintenance work at all types of nuclear facilities.

Transportation of Radioactive Materials, Part 2: Accidents *(35 min., sd., b&w, 16 mm., 1965, $50.00, USAEC)* Atomic Energy Commission Safety Engineer Francis L. Brannigan discusses the control of transportation accidents involving radioactive materials. Explains that only a small proportion of shipments of radioactive materials can present any real danger in the event of accident, shows the shipping labels which are used, and explains the regulations relating to individual packages. Shows a typical package being opened, from the outer container down to the final inner container which holds a radioisotope. Simulates accidents which cause unnecessary alarm; discusses the degree of hazard, and describes precautions to be taken when shipping radioactive materials.

Waste Disposal by Hydraulic Fracturing *(11 min., sd., color, 16 mm., 1966, $39.50, USAEC)* Depicts the development, at Oak Ridge National Laboratory, of a process for the disposal of intermediate-level radioactive wastes in underground bedded shale formations. The film shows an actual injection of material into the formation, supplemented by animation which portrays the manner in which the grout is forced down into the well and then into the fracture for permanent disposal.

The Wooden Overcoat *(14 min., sd., color, 16 mm., 1965, $48.50, USAEC)* This technical film report shows the development and testing of the wooden containers as well as the buildup of the containers from rings of plywood. Photography of actual drop tests and fire tests is included to demonstrate the resistance of the container to both impact shock and fire exposure. Results of tests show that a container having six-inch thick shells of fir plywood will adequately protect the inner metal container of radioactive material.

UNDERSTANDING THE ATOM SERIES

Understanding the Atom, No. 1: Alpha, Beta, and Gamma *(44 min., sd., b&w, 16 mm., 1962, $74.75, USAEC)* A lecture-demonstration by Dr. Ralph T. Overman which gives insight into the origin and nature of alpha, beta, and gamma radiation. Discusses neutron absorption leading to the formation of nuclei having neutron-proton ratios differing from stable or naturally occurring nuclei, the transformation of excess neutrons into negative beta radiation and the return to stability, and gamma radiation arising from a nuclear cooling process.

Understanding the Atom, No. 11: The Atom in Physical Science *(26 min., sd., b&w, 16 mm., 1964, $50.75, USAEC)* Dr. Glenn T. Seaborg, chairman of the Atomic Energy Commission, outlines briefly the types of experiments which were used in the production of transuranium elements. He describes the various sources which have been employed in producing the new elements, and points out that elements not yet discovered will be characterized by very short half lives and will require electronic means for their testing rather than chemical techniques. Discusses the applications of the atom to other chemical problems, such as the mechanism of photosynthesis, and the use of special techniques, such as isotope dilution analysis. Dr. Seaborg stresses the need for scientists and the importance of good scientific training in schools.

Understanding the Atom, No. 6: Nuclear Reactions *(30 min., sd., b&w, 16 mm., 1963, $52.00, USAEC)* A lecture-demonstration by Dr. Ralph T. Overman. Discusses some of the basic concepts of nuclear reactions, neutron capture processes, nuclear fission, examples of calculations involved in nuclear reactions, and the technique of activation analysis.

Understanding the Atom, No. 5: Properties of Radiation *(30 min., sd., b&w, 16 mm., 1962, $52.00, USAEC)* A lecture-demonstration by Dr. Ralph T. Overman which includes general problems of radiation decay, standard deviations in counts expected in various experiments, the energy spectrum from alpha and beta emitters, the use of absorption curves to study energy distribution of beta radiation, and problems of self-absorption, specific activity, and backscattering of radiation.

Understanding the Atom, No. 2: Radiation and Matter *(44 min., sd., b&w, 16 mm., 1962, $74.75, USAEC)* A lecture-demonstration by Dr. Ralph T. Overman. Considers the interaction of radiation with matter, and develops the various processes by which alpha, beta, and gamma radiation give up energy to their surroundings.

Understanding the Atom, No. 3: Radiation Detection by Ionization *(30 min., sd., b&w, 16 mm., 1962, $52.00, USAEC)* A lecture-demonstration by Dr. Ralph T. Overman which describes basic principles of ionization detectors. Gives brief descriptions of ionization chambers, proportional counters, and Geiger counters, and shows examples of instruments operating in these regions. Discusses the resolving time of a counter, as well as various components of a practical instrument, including amplifiers and scalers.

Understanding the Atom, No. 4: Radiation Detection by Scintillation *(30 min., sd., b&w, 16 mm., 1962, $52.00, USAEC)* A lecture-demonstration by Dr. Ralph T. Overman which reviews gamma interaction with matter and describes the scintillation process and the efficiency of the conversion of gamma radiation to visible light in the scintillator. Describes the operation of a photomultiplier tube, the principle of operation of a pulse-height analyzer, and the spectrum obtained with such an instrument. Also includes brief mention of solid-state radiation detectors.

Understanding the Atom, No. 8: Radioisotope Applications in Industry *(26 min., sd., b&w, 16 mm., 1964, $50.75, USAEC)* A lecture-demonstration by Paul C. Acbersold, director of Isotope Development at the Atomic Energy Commission, discussing the various industrial uses of radioisotopes in tire plants and steel mills, in the petroleum and chemical industries, and in food plants.

Understanding the Atom, No. 10: Radioisotope Applications in Medicine *(26 min., sd., b&w, 16 mm., 1964, $50.75, USAEC)* Dr. John Cooper of Northwestern University traces the development of the use of radioisotopes and radiation in the field of medicine from the early work by Hervesy to the present. He describes the areas of medical research, diagnosis, and therapy in which radioisotopes and radiation are being used, including studies of atherosclerosis, studies with cobalt-labeled vitamin B-12, the use of iodine radioisotopes in determining thyroid physiology and pathology, the localization of brain tumor, the determination of volume of body fluids, and the measurement of red cell volume and life time. Explains how radioisotopes are used for the treatment of various diseases, including hyperthyroidism and cancer.

Understanding the Atom, No. 9: Radioisotopes in Biology and Agriculture *(26 min., sd., b&w, 16 mm., 1964, $50.75, USAEC)* Dr. Howard Curtis of Brookhaven National Laboratory touches on some of the up-to-date applications of atomic energy in biology and agriculture. He discusses the importance of radioisotopic tracers in the determination of the structure and role of nucleic acids and other cellular components, pointing out that the position of DNA in the cell has been determined specifically, that the structure of protons has been determined using radioactive tracers, and that a great deal of information has been gained by studying radiation effects. Shows examples of plant breeding projects, describes the various theories of aging which have been tested, and includes other examples of the importance of radiation to molecular biology.

Understanding the Atom, No. 7: Radiological Safety *(30 min., sd., b&w, 16 mm., 1963, $52.00, USAEC)* A lecture-demonstration by Dr. Ralph T. Overman which examines the field of radiological safety or health physics and gives a basis for perspective on potential biological radiation damage. Considers background radiation and the size of dosages and their varying effects. Describes the various units of measurement and factors to be considered in controlling radiation hazards, including distance, time of exposure, and shielding.

URANIUM PROSPECTING MINING AND PRODUCTION

The Fifth Fuel *(22 min., sd., color, 16 mm., 1967, $80.25, USAEC)* Describes the fuel uranium and how it has become a useful source of energy. Explains the steps involved in preparing enriched uranium, from the mining operation through the exacting chemical and metallurgical processes, to the extrusion of precisely structured fuel elements. Points out how such fuel cores are used to transmute Uranium-238 into plutonium at production reactor sites.

Gaseous Diffusion *(3 min., sd., b&w, 16 mm., 1957, $10.00, USAEC)* Illustrates the gaseous diffusion method for separating Uranium-235 from Uranium-238.

OCEANOGRAPHY

Footprints in the Sea *(26 min., sd., color, 16 mm., 1966, Order No. MN-10314, $88.00, USN)* An exciting report on the latest deep submersible maneuverable craft being tested and used by the Navy. Over 50 percent of the film is made of new underwater photography, including scenes of sousCoupe, Deep Jeep, Morey, and CURV.

The Land Beneath the Sea *(25 min., sd., color, 16 mm., 1967, Order No. MN-10280, $85.75, USN)* Shows origins and development of the sea bottom. How the study of submarine and relief features, sediments, and the general nature of marine geology is vital to naval operations and the economic exploitation of the oceans.

Man in the Sea (Story of SEA LAB II) *(28 min., sd., color, 16 mm., 1966, Order No. MN-10100B, $94.50, USN)* Film story of Sea Lab II experiment, under-water photography inside Sea Lab and in the sea around the vehicle.

Military Oceanography: Bathythermograph Observations *(16 min., sd., color, 16 mm., Order No. MN 6832-a, $55.00, USN)* Explains the features and operation of a bathythermograph; and demonstrates its lowering and recovery, removal of the slide, and proper care of the bathythermograph.

Military Oceanography: Occupying an Oceanographic Station *(29 min., sd., color, 16 mm., Order No. MN 6832-b, $97.75, USN)* Shows the principal design features of Nansen bottles; drawing water samples; reading and recording temperatures at depth of sampling; analyzing samples for oxygen and chloride content; and recording data.

Mission Oceanography *(29 min., sd., color, 16 mm., Order No. MN 10145, $97.75, USN)* also: *(15 min., sd., color, 16 mm., Order No. MN 10145A, $51.75, USN)* A documentary history of oceanography. Tells of the discoveries and research by ocean scientists of the early 1800's and the Navy's involvement with the seas and oceanography. Shows the progress of oceanography from the early sailing days to the present, and into the future.

Nature of Sea Water *(29 min., sd., color, 16 mm., 1967, Order No. MN-10317, $97.75, USN)* Physical and Chemical properties of Sea Water. Explains how man's understanding of the sea is basic to making use of ocean resources.

Oceanographic Prediction System *(20 min., sd., color, 16 mm., 1966, Order No. MN-10167, $68.25, USN)* Oceanographic prediction systems and programs, and their relationship to defense and economic needs. How predictions increase the use of oceanographic data for a fuller understanding and exploitation of the seas.

Oceanographic Research with the Cousteau Diving Saucer *(27 min., sd., color, 16 mm., Order No. MN 10363, $91.25, USN)* How Nel scientists made use of the sousCoupe and sous-marine over a period of six months.

Oceanography-Science for Survival *(28 min., sd., color, 16 mm., 1964, Order No. MN-9835A2, $94.50, USN)* Shows the roles of the Navy within the framework of the Inter-agency Committee on Oceanograph's numerous projects on Oceanography.

Scientist in the Sea *(16 min., sd., color, 16 mm., 1967, Order No. MN-10320, $55.00, USN)* How an oceanographer, skilled in the use of scuba gear, utilizes his scientific knowledge to aid in the study of the ocean.

Sealab I *(28 min., sd., color, 16 mm., Order No. MN-10100, $94.50 USN)* Navy's exploratory attempt to apply laboratory studies of man's ability to live and work in an artificial atmosphere at a depth of 200 feet for prolonged periods.

Time Lapse Study of Antarctic Ice Floes and Tidal Currents *(26 min., sd., color, 16 mm., Order No. MN-10152, $88.00, USN)* Presents a year-long record taken at Wildes Station of the movements of ice floes in and out of Newcomb Bay. Demonstrates that ice floe movements follow the same pattern as the currents, irrespective of wind speed and direction. Also shows many cloud formations and the changes they undergo with time, as well as the progressive freezing and thawing of the ice in the Bay.

Water Masses of the Ocean *(45 min., sd., color, 16 mm., 1967, Order No. MN-10064, $153.00, USN)* A scientific film study of the locations and dynamic movements of the major water masses of the oceans.

PHYSICS

The ABC of G *(23 min., sd., color, 16 mm., Order No. MN 3446, $78.25, USN)* Explains the effect produced by accelerative force (measured in G's) upon the blood in the body; shows testing equipment used to determine how soon a subject greys out, blacks out, or reds out; and stresses keeping the body in good condition.

The Aircraft Magneto: Theory and Operation of the Four-pole Magneto *(30 min., sd., b&w, 16 mm., Order No. TF 1-3638, $52.00, USAF)* Shows the relationship between the magneto and the airplane electrical system, and explains magnetism, magnetic flux, induction, Lenz's law, static and resultant flux.

Applications of Pascal's Law: Part 1 *(13 min., sd., b&w, 16 mm., Order No. MN 1730-c, $23.75, USN)* Reviews Pascal's law and demonstrates its application in the operation of a hydraulic system.

Application of Pascal's Law: Part 2 *(15 min., sd., b&w, 16 mm., Order No. MN 1730-d, $27.00 USN)* Demonstrates Pascal's law, using two putput pistons; explains the principles of hydraulic brakes and the hydraulic jack.

Army Aircraft Gas Turbine Engine Operation, Part 1: Principles of Operation *(13 min., sd., b&w, 16 mm., Order No. TF 46-2985, $23.75, USA)* Explains the theory of operation of gas turbine engines. Uses animated drawings and the T53 engine to demonstrate the basic principles on which gas turbines operate, showing how the components work as the air and fuel flows pass through the engine.

Army Aircraft Gas Turbine Engine Operation, Part 2: Controls and Instrumentation *(14 min., sd., b&w, 16 mm., Order No. TF 46-2986, $25.50 , USA)* Describes the controls and instrumentation characteristic of Army aircraft equipped with gas turbine engines, using HU-1 (Iroquois) as a representative type for demonstration. Gives particular attention to gas compressor tachometer, exhaust gas temperature indicator, torque meter, fuel supply controls, and engine controls. Demonstrates the starting technique for turbine powered aircraft.

Army Aircraft Gas Turbine Engine Operation, Part 3: Construction and Operation of the T-53 *(15 min., sd., b&w, 16 mm., Order No. TF 46-2987, $27.00, USA)* Describes the basic construction and operation of the T-53 gas turbine engine, including the four major sections of the engine and the four major accessory systems—fuel, anti-icing, electrical, and lubrication. Uses a cutaway of the engine to review the sequence of operation of the T-53.

Derivation of Pascal's Law: Part 1 *(16 min., sd., b&w, 16 mm., Order No. MN 1730-a, $28.50, USN)* Stresses the importance of hydraulic power aboard ship; demonstrates that oil is lighter than water; explains density, pressure, and force and how to determine each in a given amount of fluid.

Derivation of Pascal's Law. Part 2 *(18 min., sd., b&w, 16 mm., Order No. MN 1730-b, $32.00, USN)* Demonstrates that liquids transfer force equally to all parts of a container; explains operation of several types of pressure gauges; reviews Pascal's law.

"G" Facts *(23 min., sd., color, 16 mm., Order No. TF 1-4964, $78.25, USAF)* Explains the basic principles of gravitational pull; describes positive "G," negative "G," and transverse "G"; and discusses the purposes and uses of different types of anti-G suits.

The Gyroscope and Gravitation *(14 min., sd., b&w, 16 mm., Order No. MN 1792-c, $25.50, USN)* Explains the theory and operation of pendulous and mercury ballistic type compasses, the effect of gravity on a gyroscope, and the operation of an Arms pendulous compass and a Sperry mercury ballistic compass.

Ignition and Spark Plug *(12 min., sd., b&w, 16 mm., Order No. TF 1-4137, $22.25, USAF)* Explains the construction and care of the aircraft spark plug, and analyzes the function of the primary, secondary, breaker, condenser, and distributor.

Light-Sensitive Materials *(22 min., sd., color, 16 mm., Order No. MN 5385, $74.75, USN)* Physics of light and color; classification of light-sensitive materials according to light sensitivity and composition of light-sensitive materials.

Measurement with Light Waves *(15 min., sd., b&w, 16 mm., Order No. OE 174, $27.00, USOE)* Principles of measurement with light waves; nature of light waves; cause of interference bands and use of these bands in ultra-precision measurement. Procedures used in gage block inspection.

The Oil Gear Hydraulic Traversing Mechanism, Principles of Operation *(22 min., sd., b&w, 16 mm., Order No. TF 9-1376, $38.50, USA)* Shows by means of working models and animation how the oil gear traverse mechanism operates, and the path and functioning of oil through an elevated mechanism.

Planetary Gears, Principles of Operation. Part 1: Single Sets *(18 min., sd., b&w, 16 mm., Order No. TF 9-1855, $32.00, USA)* Discribes the use and operation of planetary gears, covering the basic components, the laws of mechanical operation, and the results. Illustrates through a scale model the mechanics of planetary gears.

Planetary Gears, Principles of Operation. Part 2: Multiple Sets *(15 min., sd., b&w, 16 mm., Order No. TF 9-1856, $27.00, USA)* Demonstrates, through the use of a scale model, the principles of operation governing multiple sets of planetary gears.

Principles of Dry Friction *(17 min., sd., b&w, 16 mm., Order No. OE 365, $30.50, USOE)* Defines friction; explains the advantages and disadvantages of friction; the forces involved in friction; static and kinetic friction, and the calculation of the coefficients of static and kinetic friction.

Principles of Gearing: An Introduction *(18 min., sd., b&w, Order No. OE 363, $32.00, USOE)* Friction involves gears and toothed gears; law of gearing, positive driving, profiles, pressure angle, cycloid profiles, velocity rates, and circular pitch.

Principles of Lubrication *(16 min., sd., b&w, 16 mm., Order No. OE 355, $28.50, USOE)* The need for lubrication; properties of lubricants; action of lubricants; viscosity of lubricants; and conditions that determine proper viscosity.

Principle of Moments *(23 min., sd., b&w, 16 mm., Order No. OE 362, $40.50, USOE)* Explains the concept of moment of a force; the formula for finding its numerical value; principle of moments as applied to all coplanar force systems.

Tension Testing *(21 min., sd., b&w, 16 mm., Order No. OE 348, $37.00, USOE)* How a hydraulic tension testing machine operates; how to prepare the machine and a specimen for a test; and conduct the test to determine the specimen's elastic limit, yield point, and ultimate strength.

Turboprop/Turboshaft Engines: Introduction *(13 min., sd., color, 16 mm., Order No. MN 8812-a, $45.25, USN)* Outlines the theory of operation of turboprop and turboshaft engines with comparison to the turbojet engine. Shows testing and assembly of engine components in manufacture and the maintenance and operation of the engines.

Why Engines Are Governed *(5 min., sd., b&w, 16 mm., Order No. TF 55-2184, $9.25, USA)* Explains that the governor on military engines limits the speed of the engine at the point where it develops maximum horsepower. With the aid of a chart, followed by a demonstration on a GMC engine, defines the relationship between horsepower and speed, and shows how the governor on the engine prevents a waste of power.

SPACE PROGRAMS

APOLLO

Apollo Mission Highlights *(12 min., sd., color, 16 mm., Order No. AD-1, $50.25, NASA)* A new look at the plans and preparation for the manned lunar landing mission, through photography and animation. Shows the techniques of launching, earth orbit, lunar landing, exploration of the moon, return and recovery of the astronauts. Explains briefly what the astronauts plan to do on the moon, and how scientists will evaluate the lunar rock samples which will be brought back to earth.

The Apollo 4 Mission *(16 min., sd., color, 16 mm., Order No. HQa-181, $64.00, NASA)* Presents the assembly and launching of the first unmanned SATURN V/APOLLO space vehicle, the world's largest rocket. Shows details of the stage separations, acceleration to an altitude of 11,232 miles above earth, and the effects of reentry of the unmanned spacecraft at a speed of 25,000 miles per hour.

Apollo 9: The Space Duet of Spider and Gumdrop *(28 min., sd., color, 16 mm., Order No. HQ-189, $111.75, NASA)* A pictorial documentary of the Apollo 9 mission, the first earth-orbital rendezvous and docking of the Apollo Command Module (Gumdrop) and the Apollo Lunar Module (Spider). An introspective view of Astronauts McDivitt, Scott and Schweickart before, during and after their Apollo 9 flight. With minimal narration and special music, the film follows the astronauts through training activities, press interviews, launch preparations, orbital maneuvers, and recovery.

The Flight of Apollo 7 *(14 min., sd., color, 16 mm., Order No. HQ-187, $59.00, NASA)* A report of the first manned mission in the U.S. Apollo manned lunar landing program. Major events covered are launch, a transposition and docking maneuver, a rendezvous maneuver, television transmissions, re-entry and recovery. The film shows the three astronauts living and working aboard the Apollo command module during the 11-day flight.

Landing on the Moon *(28 min., sd., b&w., 16 mm., Order No. HQK-SR2, $55.75, NASA)* The Lunar Module is the topic of this film. The viewer is taken inside the module and is given a simulated ride to the surface of the moon. Details of the Lunar Module landing and lift-off from the moon are explained.

Power for the Moonship *(28 min., sd., b&w, 16 mm., Order No. HQK-SR4, $53.75, NASA)* The fascinating new world of fuel cells is explored in this film. Viewers are shown working models of the fuel cell for the Apollo spacecraft, and are given a hint of possible future uses here on earth.

Returning from the Moon *(28-1/2 min., sd., b&w, 16 mm., Order No. HQK-SR-9, $55.75, NASA)* This film explores the problem of getting the Apollo command module safely back through the atmosphere to earth. Explains the problems of guidance and heating and the manufacturing process for the ablative heat shield.

Room at the Top *(28 min., sd., b&w, 16 mm., Order No. HQK-SR-7, $55.75, NASA)* At the top of the giant Saturn-Apollo is the Command Module, the crew quarters, flight center and command post for the flight to the moon. This all important room at the top of Saturn V, is examined in detail.

ASTRONOMICAL EXPLORATION

The Clouds of Venus *(30 min., sd., color, 16 mm., Order No. HQa-82, $115.50, NASA)* A documentary of the flight of MARINER II which was launched on Aug. 27, 1962—our first effort to obtain scientific data of Venus from a satellite passing close to it. Shows the position of Venus within our solar system and some of its features that have been determined by astronomers. Presents the flight profile, trajectory, spacecraft features, and the experiments conducted throughout 109 days and 180 million miles of travel. A few preliminary scientific findings are summarized.

Great is the House of the Sun *(21 min., sd., color, 16 mm., Order No. HQ-144, $82.00, NASA)* Atop Mount Haleakala, the "House of the Sun", Dr. Walter Steiger and his colleagues from the University of Hawaii study the effects of the airglow phenomena and solar radiation in space, while other scientists prepare experiments to be flown aboard space satellites to study ultra-violet radiation.

The Hard Ones *(15 min., sd., color, 16 mm., Order No. HQ-120, $61.50, NASA)* The difficulties and problems encountered in designing, building, and operating unmanned satellites for scientific research and practical applications such as communications and weather forecasting.

Radio Astronomy Explorer *(30 min., sd., color, 16 mm., Order No. HQa-186, $111.25, NASA)* Against a background of research currently performed by optical and groundbased radio astronomy, this film describes the design and function of the new Radio Astronomy Explorer, a spacecraft with 1500-foot antennas which will detect and relay various types of radio waves emitted by the sun, earth and the planet Jupiter.

Seas of Infinity *(14-1/2 min., sd., color, 16 mm., Order No. HQa-135, $59.00, NASA)* Reviews the planning development, launching and function of the Orbiting Astronomical Observatory, a series of orbiting telescopes which are being used to study our solar system and the stars beyond. Features comments by leading scientists on the potential of this advancement in astronomy.

Trail Balance *(27 min., sd., color, 16 mm., Order No. HQ-123, $110.25, NASA)* Shows how new knowledge in space science has been gained through analysis of information acquired from spacecraft. Includes Satellite Studies of the Van-Allen Radiation Belt, Solar Winds and Solar Flares, photographs of Mars, and other space phenomena.

BIOGRAPHY

The Dream That Wouldn't Down *(27 min., sd., b&w, 16 mm., Order No. HQK-125, $50.25, NASA)* The dream of Dr. Robert Goddard, the father of rocketry, is explored and examined through reminiscences of Mrs. Goddard. Included are historic scenes of Dr. Goddard's early experiments and the personal commentary of Mrs. Goddard.

The John Glenn Story *(30 min., sd., color, 16 mm., Order No. HQa-90, $115.50, NASA)* A biography of Astronaut John Glenn narrated by Jack Webb. Stresses American ideals as exemplified in the life of Astronaut Glenn; the importance of physical, mental and moral values. Portrays his youth in New Concord, Ohio, his service as a combat pilot in World War II and the Korean War, and his momentous adventure as the first American to orbit the earth.

CHEMISTRY

The Poetry of Polymers *(19 min., sd., color, 16 mm., Order No. HQ-143, $78.00, NASA)* Shows research in polymers being carried out by Dr. Frank d'Alelio, Research Professor of Chemistry, University of Notre Dame. The molecular structure of polymers is explained and the molding of a polymer from basic ingredients is demonstrated. The challenge of inquiring into the basic nature of materials is dramatically presented.

COMMUNICATIONS

The Guaymas Story *(27 min., sd., color, 16 mm., Order No. HQ-165, $106.75, NASA)* A visit to the NASA tracking station at Guaymas, Mexico, and a study of the relationship between the community and the space facility.

A Moment in History *(13-1/2 min., sd., color, 16 mm., Order No. HQa-122, $54.00, NASA)* The presentation of honorary U.S. Citizenship to Winston Churchill by President Kennedy on April 6, 1963. The live television transmission was sent via satellite from the White House to England.

Project Echo *(27 min., sd., color, 16 mm., Order No. HQ-24, $105.75, NASA)* Tells the story of the Echo spacecraft and launch vehicles Thor-Delta I and Thor-Delta II which placed Echo I, a 100 foot sphere in orbit as a passive communications satellite in 1960.

Space Communications *(19 min., sd., color, 16 mm., 1960, Order No. TF 1-5296, $65.00, USAF)* Highlights basic principles and techniques of communications, stressing those factors that relate directly to space. Explains behavior of electromagnetic waves and formula for computing their attenuation rate. Discusses factors such as distance, payloads, power supply longevity, motion environment and modes of transmission with emphasis on telemetry.

The Vital Link *(28-1/2 min., sd., color, 16 mm., Order No. HQa 74, $111.75, NASA)* Shows NASA's worlwide communications system and networks of stations that send commands to spacecraft, determine spacecraft position, and receive scientific data from them. Emphasizes the Apollo Tracking Network.

EARTH SATELLITES

America in Space—The First Decade *(28 min., sd., color, 16 mm., Order No. HQ-183, $111.75, NASA)* A 10-year history of NASA's role in the exploration of space. The film presents a highly-pictorial non-technical review of major areas of research and discovery, and emphasizes the contributions of many areas of American life to the success of the first decade of space exploration. It briefly describes major accomplishments in aeronautics, atmospheric research, the use of scientific and applications satellites, studies of the moon and planets, and manned spaceflight.

Ariel—The First International Satellite *(13 min., sd., color, 16 mm., Order No. HQ-58, $54.00, NASA)* Describes the sun's effects on earth's ionosphere and how this in turn affects radio transmission. International co-operation in space investigation is illustrated.

International Co-operation in Space *(23 min., sd., color, 16 mm., Order No. HQ-60, $91.50, NASA)* NASA's program of co-operation with many countries in launching international satellites, carrying of foreign experiments on U.S. spacecrafts, sounding rocket research, global tracking networks.

A New Look at an Old Planet *(26 min., sd., color, 16 mm., Order No. HQ-178, $99.00, NASA)* Through experiences in the lives of a Texas coastal family, this film highlights benefits of weather, communication, navigational and earth resources satellites. Illustrates future potential uses of satellites in agricultural, oceanographic and natural resources studies. Narrated by Robert Landers.

Orbiting Solar Observatory *(25 min., sd., color, 16 mm., Order No. HQa-95, $102.00, NASA)* Describes the orbiting Solar Observatory spacecraft which is designed to gather information concerning the sun's effect on the earth.

Space Orbits *(18 min., sd., color, 16 mm., 1960, Order No. TF-1-5293, $61.75, USAF)* Presents through animation, basic facts as to orbital patterns and the forces which produce them. Explains the patterns in relation to space missions of missiles, artificial earth satellites, lunar probes, and space travelers, and shows how all must follow paths dictated by the same natural laws formulated by Sir Isaac Newton nearly three hundred years ago. Cleared for TV.

GEMINI 4

The Four Days of Gemini 4 *(27-1/2 min., sd., color, 16 mm., Order No. HQa-134, $110.00, NASA)* The Gemini 4 Mission of Astronauts James McDivitt and Edward White. Includes pre-launch and launch activities. Astronaut White's spectacular "space walk", photographs of the earth, and other experiments conducted during the mission. Sound track includes narration and actual voice communications by the astronauts. Shows details of the Gemini space suit and "space gun".

Legacy of Gemini *(27-1/2 min., sd., color, 16 mm., Order No. HQ-160, $108.50, NASA)* Presents the major accomplishments of the Gemini two-man space flights and the relationship of these accomplishments to the Apollo three-man flights that will lead to a lunar landing; outstanding photography of man in space and the earth seen from space is included.

FACILITIES

Aerial Tour of White Sands Missile Range *(9 min., sd., color, 16 mm., 1964, Order No. MF 45-9525, $31.00, USA)* Highlights the natural and man-made resources of the Range.

The Big Challenge *(28 min., sd., color, 16 mm., Order No. HQa-170, $100.25, NASA)* The semi-technical story of the planning and construction of the vehicle assembly building, crawler, mobile service structure, and the buildings and support facilities of the Kennedy Space Center, Merrit Island, Florida. Produced by the NASA and the Army Corps of Engineer, this film presents significant construction features of the NASA "moonport."

Cape Kennedy 1964 *(27 min., sd., color, 16 mm., 1965, Order No. SFP 1460, $91.25, USAF)* Reviews satellite launchings with close-up of Ranger moon probe. Cites important gains in our space data and identifies key Cape Kennedy personnel. Traces booster improvements and missile program advances. Cleared for TV.

Cape Kennedy 1965 *(27 min., sd., color, 16 mm., 1965, Order No. SFP 1487, $91.25, USAF)* Reviews advances in missile and satellite science at Cape Kennedy. Describes improvements in Polaris, Ranger, Saturn-Pagasus, Apollo, and Titan III projects with focus on five important Gemini flights. Cleared for TV.

Doorway to Tomorrow *(28 min., sd., color, 16 mm., Order No. HQa-171, $100.25, NASA)* A documentary portrait of the new John F. Kennedy Space Center with emphasis on the Complex 39 "moonport" from which the Apollo astronauts will be launched to the moon. Shows details of the vehicle assembly building, the assembly of a Saturn V/Apollo vehicle, the mission launch control center and the movement of the launch vehicle by crawler to the launch pad.

Environmental Testing at White Sands Missile Range *(21 min., sd., color, 16 mm., Order No. MF 45-9522, $71.50, USA)* Describes the activities at the Environmental Test Center, White Sands Missile Range, New Mexico. Shows the Hawk air-defense missile being used to demonstrate the variety of tests performed under simulated climatic conditions to determine the operational effectiveness of missile systems in different environments. Highlights the objectives, plans, methods, materials, equipment, and facilities for the operational test in cold environment, high temperature test, salt-fog test, dust test, rain test, altitude test, solar radiation test, and combined environment test. Shows pre-firing conditioning tests at the launch site.

Holloman: Frontier of the Future *(30 min., sd., color, 16 mm., Order No. SFP 396, $101.00, USAF)* Depicts the Air Force advancement in missile technology at Holloman Air Development Center, and explains how the center deals with research and development of missile and upper air explorations.

Milestones in Missilery *(10 min., sd., color, 16 mm., Order No. MF 45-9529, $34.00, USA)* Describes outstanding milestones in missile development and testing accomplished at the White Sands Missile Range, New Mexico, since the early test firings of the V2 rocket in 1945. Shows scenes of actual test firings of Nike Ajax, Nike Hercules, Nike Zeus, Hawk, Corporal, Honest John, Little John, LaCrosse, Sergeant, and Redstone.

The Range Goes Green *(8 min., sd., color, 16 mm., 1964, Order No. MF 45-9523, $27.75, USA)* Depicts a representative test day at the White Sands Missile Range. A test of Nike-Zeus intercept of Nike-Hercules missile highlights the work of WSMR personnel, facilities, and instrumentation involved during each phase of the test.

Space Pilot—Aerospace Research Pilot School *(20 min., sd., color, 16 mm., 1963, Order No. SFP 1169, $68.25, USAF)* A pictorial report on the Aerospace Research Pilot School where the men who will man our spacecraft are selected, processed, and trained to be experts in every phase of traveling and living in space. Discusses studies in bioastronautics, mechanics of orbits, re-entry problems, and space flight mathematics. Shows equipment by which pilots can plot entire missions on paper and experience all types of aerospace environments.

Springboard to Space—The Arnold Center Story *(15 min., sd., color, 16 mm., 1963, Order No. SFP 1167, $51.75, USAF)* Reveals the complexities of the Arnold Center where man seeks to understand and to resolve problems of space flight.

Vandenberg: Aerospace Air Force Base *(14 min., sd., color, 16 mm., Order No. SFP 1067, $48.50, USAF)* Film report on Vandenberg Air Force Base, home of the U.S. Air Force First Ballistic Missile Division, pointing out accomplishments in aerospace operations within six years. Depicts the intensive training required for the crews that will man the missile bases and highlights the research and testing conducted to insure the operational capability of missile weapon systems.

White Sands Missile Range *(20 min., sd., color, 16 mm., 1964, Order No. MF 45-9540, $68.25, USA)* Describes the history, mission, and facilities of White Sands Missile Range.

LAUNCH VEHICLES

Aerospace Power *(4 min., sd., color, 16 mm., 1962, Order No. FR-265, $14.75, USAF)* A series of action shots of USAF aircraft and missiles, set against background music. Cleared for TV.

Ballistic Missile Trajectories *(13 min., sd., color, 16 mm., Order No. TF 1-5291, $45.25, USAF)* Shows the complexity in computing missile trajectories and discusses some of the factors to be considered, such as earth's rotation, coriolis force, and variation of linear velocity.

Before Saturn *(14 min., sd., color, 16 mm., Order No. HQa-76, $59.00, NASA)* A short history of the philosophical and fictional dreams of space exploration, from the early Chinese through the Greek period to the development of the Saturn I rocket.

Titan, The Underground ICBM *(15 min., sd., color, 16 mm., 1961, Order No. SFP 1038, $51.75, USAF)* Tells the story of Titan and its underground home. Explains Titan's mission in our arsenal of defense. Shows the launch crew members who live with this deadly weapon of the free world. Cleared for TV.

LIFE SUPPORT SYSTEMS

Living in Space—Part I—The Case for Regeneration *(12 min., sd., color, 16 mm., Order No. HQ-131A, $49.50, NASA)* Introduces the concept of regenerative life support. Shows what is needed to provide men with clean fresh air, drinkable water, food, personal hygiene, waste disposal, temperature and humidity control. Indicates the problems involved in converting waste materials into useable products for manned flights of long duration.

Living in Space—Part II—Regenerative Processes *(20 min., sd., color, 16 mm., Order No. HQ-131B, $80.25, NASA)* Shows the principles of physics, chemistry and mechanics employed in a regenerative life support system. Includes oxygen recovery, water purification, food and waste management, humidity and temperature control.

Living in Space—Part III—A Technology for Spacecraft Design *(12 min., sd., color, 16 mm., Order No. HQ-131C, $46.50, NASA)* Shows the features that must be incorporated into a spacecraft intended for long duration manned space flight and the technology that is being developed to solve the numerous problems.

Suited for Space *(28 min., sd., b&w, 16 mm., Order No. HQK-SR5, $53.75, NASA)* Presents the history of space suits from Mercury through Apollo to future concepts. Also included is a close-up look at the portable life support system an astronaut will wear on the surface of the moon.

LUNAR PROBES

Assignment: Shoot the Moon *(28 min., sd., color, 16 mm., Order No. HQ-167, $100.50, NASA)* Summarizes what we have learned about the moon through Ranger, Surveyor and Lunar Orbiter photography, and how this new knowledge contributes to manned flight to the moon. Unique views of craters and other lunar surface features, and of the earth seen from the moon, are included.

Debrief: Apollo 8 *(28 min., sd., color, 16 mm., Order No. HQ-188, $108.00, NASA)* The story of man's first journey to the moon with comments on the significance of the Apollo 8 flight by several prominent Americans. The film features photography of the lunar surface, the earth as seen from the moon, and the on-board activities of Astronauts Borman, Lovell and Anders.

The First Soft Step *(28 1/2 min., sd., b&w, 16 mm., Order No. HQK-SR1, $57.00, NASA)* A detailed look at the overall mission accomplishments of the Surveyor program to soft-land and a picture-taking craft on the surface of the moon. The program introduces the viewer to the spacecraft and to tope scientists involved in its flight. It concludes with actual photos sent back to earth from Surveyor I.

Ranger IX, Television Pictures of the Moon *(6 1/2 min., sd., b&w, 16 mm., Order No. HQa-133, $14.25, NASA)* Short film of lunar photographs taken by the Ranger spacecraft in 1965, with a narrative account of the missions. The photographs have been printed to provide continuous views as the spacecraft descends toward the moon until the moment of impact, and wide and narrow angles are included.

A View of the Sky *(27 1/2 min., sd., color, 16 mm., Order No. HQ-163, $108.00, NASA)* Reviews through symbolic photography the various historical theories of the universe from Copernicus through Einstein with a brief look at present day space exploration. Explores a child's view of the solar system today and tomorrow.

MERCURY

The Flight of Faith 7 *(28 min., sd., color, 16 mm., Order No. HQa-101, $111.75, NASA)* Astronaut Gordon Cooper's Project Mercury Flight in 1963 is documented from the pre-flight training through launch and recovery. A story of the final flight in the Mercury program series

Freedom 7 *(28 1/2 min., sd., color, 16 mm., Order No. HQa-51, $110.25, NASA)* Astronaut Alan B. Shephard's sub-orbital launch. Describes part of his training, his activities during the last few days before launch, his recovery and reception aboard the rescuing aircraft carrier.

Friendship 7 *(58 min., sd., color, 16 mm., Order No. HQa-59, $200.00, NASA)* Astronaut John H. Glenn's first American orbital space flight. Documents Project Mercury, including a close look at tracking stations around the world.

The Mastery of Space *(58 min., sd., color, 16 mm., Order No. HQ-9, $200.00, NASA)* Traces the development of Project Mercury and documents the sub-orbital flight of Freedom 7 as well as the orbital flight of Friendship 7 on February 20, 1962. Project Gemini, Apollo and the Saturn booster are also briefly discussed.

NAVIGATION

Destination: Where? *(11 min., sd., color, 16 mm., 1965, Order No. SFP 1238, $37.25, USAF)* Portrays role of geodesists in plotting orbital space flights and points on earth. Explains Hiran, Shiran and stellar camera systems of land measurement and their importance to orbital computation. Also discusses measurement of gravity distortions. Cleared for TV.

Space Guidance and Control *(10 min., sd., color, 16 mm., Order No. TF 1-5294, $34.00, USAF)* Depicts the simulated space flight of a manned vehicle leaving the earth and joining a space station in orbit. Explains, with demonstrations, such terms as guidance system, inertia, acceleration, deceleration, and discusses various control problems.

Space Navigation *(13 min., sd., color, 16 mm., Order No. TF 1-5295, $45.25, USAF)* Explains the science of interplanetary flight through an imaginary trip to Mars and depicts the elements of navigation guidance and control.

Space in Perspective *(27 min., sd., color, 16 mm., 1965, Order No. TF 5622, $91.25, USAF)* Depicts types and explains applications of satellites and space vehicles. Discusses Titan and Saturn programs and forecasts advances in space science and travel. Cleared for TV.

Space Rendezvous *(25 min., sd., color, 16 mm., 1964, Order No. TF 5619, $84.75, USAF)* Clarifies the principles and limitations of orbit maneuvering in outer space. Focuses primarily on coplanar orbits but also delineates the complexities of noncoplanar orbits for comparison. Points out the problems involved in transferring a vehicle from one orbit to another for rendezvous with another vehicle. Cleared for TV.

PLANETARY EXPLORATION

The Challenge of Unanswered Questions *(15 1/2 min., sd., color, 16 mm., Order No. HQ-148, $61.50, NASA)* Presents the principal features of the Aurora - one of the most mysterious and fascinating of natural phenomena. Shows the theories of its cause and the instruments and techniques used in studying it. Shows the life and experiences of a graduate student working under Dr. Sydney Chapman at the Geophysical Institute, University of Alaska.

Log of Mariner 4 *(27 min., sd., color, 16 mm., Order No. HQa-159, $106.50, NASA)* A documentary of the Mariner 4 spacecraft which travelled 325 millions of miles through space and passed the planet Mars at a distance of 2,000 miles. Continuous measurements of radiation, magnetic fields and particles were made during the flight and the Martian surface was photographed. Problems of trajectory, mid-course correction, and transmission of photographs in digital form and translation back into photographs are presented.

Men Encounter Mars *(28 1/2 min., sd., b&w, 16 mm., Order No. HQ-149, $54.50, NASA)* A documentary about the engineers and scientists who planned and directed the complex mission of Mariner IV to photograph the Martian surface.

Universe on a Scratchpad *(28 1/2 min., sd., b&w, 16 mm., Order No. HQ-164, $57.25, NASA)* A candid study of the work of a modern day astro-physicist and his method of studying the universe; features commentary by Dr. Robert Jastrow and Dr. Patrick Thaddeus of the NASA Goddard Institute for Space Studies, New York.

PHYSICS

It's You Against the Problem *(23 min., sd., color, 16 mm., Order No. HQ-146, $115.50, NASA)* Shows basic research in ablative materials being carried out by Dr. Simon Ostrach, Head-Division of Fluid, Thermal and Aerospace Sciences, Case Institute of Technology (now Case Western Reserve University) and by a graduate student working under Dr. Ostrach's guidance. Emphasizes the challenge of research and the education and life of a scientist.

X-Ray Spectroscopy—The Inside Story *(26 min., sd., color, 16 mm., Order No. HQ-140, $98.25, NASA)* Dr. Robert J. Liefield, Professor of Physics, New Mexico State University explains how x-rays are generated and how an x-ray spectrometer disperses them into a spectrum. He shows how specially-grown crystals are made and used in a two crystal vacuum x-ray spectrometer to diffuse an x-ray beam, isolate a single wavelength, scan a spectrum and record its characteristics.

PROPULSION AND ROCKETRY

Electric Power Generation in Space *(26 1/2 min., sd., color, 16 mm., Order No. HQ-155, $104.25, NASA)* Shows the wide range of power requirements for space exploration and the need for absolute trouble-free operation. The methods by which electric power has been provided are shown; including the battery, solar cell and fuel cell. For the higher power levels needed in the future, the various methods of using atomic energy are shown; including two methods of generating heat and four methods of converting heat into electricity.

Electric Propulsion *(24 min., sd., color, 16 mm., Order No. HQ-96, $93.75, NASA)* Shows what electric propulsion is, how it works, why it is needed, its present status and program for development, and how it may be used for both manned and unmanned missions.

Nuclear Propulsion in Space *(24 min., sd., color, 16 mm., Order No. HQ-152, $93.75, NASA)* Shows how a nuclear third stage for the SATURN V launch vehicle will greatly increase its performance; why the nuclear rocket uses propellant about twice as efficiently as our best chemical rockets; how the nuclear engine will work; the development and testing program of the reactor and engine; and describes how nuclear rocket stages might one day be assembled and used in a manned flight to another planet.

Skyward the Great Ships *(27 1/2 min., sd., b&w, 16 mm., Order No. HQ-165, $53.00, NASA)* An examination of the various types of propulsion being developed for space missions and the applications and advantages of each. Illustrates research in chemical, nuclear and electrical propulsion systems.

SAFETY

Missile Explosive Device Safety *(14 min., sd., color, 16 mm., Order No. FTA 542, $48.50, USAF)* Demonstrates hazards involved when missile explosive devices are mishandled. Explains the purpose and nature of fuses, squibs, igniters, initiators, etc. Outlines safety procedures for handling, installing, and testing such devices. Cleared for TV.

Missile Safety at Vandenberg Air Force Base *(23 min., sd., color, 16 mm., 1960, Order No. SFP 645, $78.25, USAF)* A general description of Vandenberg's physical layout points out unique hazards and dangers peculiar to missile operations and explains why stringent safety procedures must be rigidly enforced. Also shows important safety measures required at missile complexes before, during and after a launching.

SPACE MEDICINE AND BIOLOGY

The Aerospace Medical Division—Air Force Systems Command—the Universe Within *(14 min., sd., color, b&w, 16 mm., 1965, Order No. SFP 1313, $48.50, USAF)* Reviews progress and nature of aerospace medical research in Air Force Systems Command laboratories and relates this study to clinical medicine, education and training. Cleared for TV.

The Biosatellite Program—Between the Atom and the Star *(28 min., sd., color, 16 mm., Order No. HQ-107, $111.00, NASA)* Shows why an orbiting satellite is "weightless" and how biological experiments performed in a weightless laboratory may reveal important information about basic life processes. Many of the experiments that will be made are described, including the nature of gravity sensors in plants and animals, the effects of radiation combined with weightlessness, the effect of weightlessness on reproduction, the Cardiovascular system and bone structure, and effect of removing the 24-hour day/night cycle.

Pioneers of the Vertical *(24 min., sd., color, 16 mm., 1967, Order No. SFP 1314, $81.50, USAF)* Depicts mission, activities and facilities of Aeromedical Research Laboratory at Holloman AFB, N. M. Shows training and care of primates. Points out their vital use in decompression and radiation studies, blood analyses and experimental medicine. Pictures deceleration, pulmonary and space capsule tests. Stresses laboratory's contribution to safety in future space travel. Cleared for TV.

Space Medicine *(28 1/2 min., sd., b&w, 16 mm., Order No. HQK-SR8, $53.75, NASA)* Dr. Charles Berry discusses and shows the medical progress and problems of sending a human being into space including the requirements of a space suit and lift support equipment. A general look at the medical program for manned space flight.

TECHNICAL UTILIZATION

The Air Force Missile Mission *(24 min., sd., color, 16 mm., Order No. SFP 608, $81.50, USAF)* Explains the current Air Force missile concept and points out why we have so many weapons, what they are for, and how their development serves a dual purpose as a present-day deterrent force and a foundation for future space travel.

By-Products of Space Research—Selected Examples *(16 1/2 min., sd., color, 16 mm., Order No. HQ-179, $67.50, NASA)* Recent industry applications of aeronautical and space technology and the resulting new or improved products and techniques are demonstrated in this film. Examples illustrated include the use of computers to improve X-ray photographs, application of tire hydroplaning studies to highway safety, new tools for diagnosing muscle disease, contributions to crystal growth technology, space telemetry applications for FM broadcasting, a new type of inorganic paint.

Ceramics in Space *(19 1/2 min., sd., color, 16 mm., Order No. HQ-142, $76.25, NASA)* Using ceramics as a typical field of scientific study, the film shows how a graduate student develops the academic discipline needed to conduct original research including: search of scientific literature; definition of the problem; design, analysis and performance of experiments; collection and evaluation of data. Shows the relationship between student, faculty advisor and other scientific disciplines. Features James I. Mueller, PHD., Professor of Ceramic Engineering, University of Washington.

The Challenge of the Unknown *(25 min., color, 1967, Order No. SFP 1542, $84.75, USAF)* Depicts Air Force scientific research activities on matter, energy, life and the atom. Shows sophisticated telescopic, photographic, electronic and spectographic equipment used in advancement of research and technology. Points out some of the wonders of science such as development of crystals, LASER research, plasma studies, observance of solar activity, and development of sources of energy. Describes progress in missile, aircraft and space projects. Defines role of Air Force Office of Aerospace Research in providing man with an endless source of knowledge on developments in science and technology. Cleared for TV.

Flight to Tomorrow *(28 min., sd., color, 16 mm., Order No. HQ-168, $107.25, NASA)* By comparison with present-day jet travel, this film shows some of NASA's advanced aeronautical research to improve the aircraft of tomorrow. Included are the supersonic transport, hypersonic aircraft, vertical take-off and landing aircraft, and research on problems of jet noise, sonic boom and stability of light aircraft.

Food for Space Travelers *(28 1/2 min., sd., b&w, 16 mm., Order No. HQK-SR-3, $55.75, NASA)* A report on the progress and problems involved in developing, preparing and eating nutritious and tasteful foods during extended space journeys. Host John Fitch visits a space foods kitchen and samples food prepared for astronauts.

Photographic Highlights of USAF Activities *(7 min., sd., color, 16 mm., 1959, Order No. SFP 1010, $24.50, USAF)* Shows record flight and landing of the X-15, pictures of TAC's (Tactical Air Command) F-100's, SAC's (Strategic Air Command) B-52's, and T-38 jet trainers. Cleared for TV.

Photography in the USAF: Optical Instrumentation at Vandenburgh Air Force Base *(17 min., sd., color, 16 mm., 1961, Order No. SFP 1028, $58.50, USAF)* Shows how optical instrumentation during missile launchings is achieved through engineering sequential photography. Depicts the various cameras used and explains their characteristics and capabilities. Points out how these photographic techniques are invaluable in providing solid evidence of missile failure causes.

Reach into Space *(16 min., sd., color, 16 mm., 1964, Order No. FR 373, $55.00, USAF)* Explains military and scientific significance of space research. Describes progress of various space projects and examines their future requirements. Cleared for TV.

Research Project X-15 *(27 min., sd., color, 16 mm., Order No. HQ-79, $108.00, NASA)* Shows the development of the experimental X-15 research airplane and the results obtained from early X-15 flights. Dramatic photography of flights at the edge of space and landings on dry lake beds are included.

Returns from Space *(27 min., sd., color, 16 mm., Order No. HQa-156, $108.00, NASA)* Some of the varied "spinoff" benefits and products of space research and development are demonstrated. These include use of sensors for monitoring hospital patients, devices which aid the disabled, the uses of freeze-dried foods by campers, new technological tools and materials, and microminiaturization of electronic components.

Signals for Missiles *(21 min., sd., color, 16 mm., Order No. MF 11-8924, $71.50, USA)* Describes the operations of the U. S. Army

Signal Agency at White Sands Proving Ground and the part it plays in guided missile research and development. Shows the equipment, methods, and procedures used in connection with missile control and flight tests, test analysis, and missile geophysics.

Ticket Through the Sound Barrier *(28 min., sd., b&w, 16 mm., Order No. HQK-SR 10, $55.75, NASA)* The supersonic transport development progress is explored in this film. The viewer is taken on a personal inspection trip of various configurations and gets to examine each. Also included is a "ride" in a simulated SST.

The X-17 Story *(22 min., sd., color, 16 mm., Order No. SFP 635, $74.75, USAF)* Traces the development of the X-17, a three-stage test missile designed to solve the re-entry problem, from drawing board to its test at a Cape Canaveral launching pad.

WEATHER

Aerology (Thunderstorms) Part 1: Formation and Structure of Thunderstorms *(17 min., sd., b&w, 16 mm., Order No. MN 7409-a, $30.50, USN)* Explains the relationship of moist air, heat, and conditionally unstable air; conditions for frontal types of storms and their frequency; and the structure of thunderstorms.

Aerology (Thunderstorms) Part 2: Flight Techniques with Respect to Thunderstorms *(15 min., sd., b&w, 16 mm., Order No. MN 7409-b, $27.00, USN)* Demonstrates essential flight techniques with respect to thunderstorms, and discusses desirable airspeeds for pentration, desirable altitudes, methods of storms, detection of storms, techniques of plane control, flight through hail, and landing procedures.

Air Masses and Fronts—Air Masses *(12 min., sd., color, 16 mm., 1962, Order No. TF 1-5388a, $42.00, USAF)* Outlines the fundamentals of air masses. Covers general characteristics and causes of stable and unstable air. Other sequences discuss cumulus and stratus cloud layers, turbulence, various directions of air mass movements and effects of heat, cold, altitude and moist air. Cleared for TV.

Air Masses and Fronts—Fronts and the Surface Weather Map *(10 min., sd., color, 16 mm., 1962, Order No. TF 1-5388b, $34.00, USAF)* Explains the use of surface weather maps and shows how fronts form from warm and cold air. Shows how weather patterns appear on the map and discusses general wind directions, wind shifts, low pressure trough, frontal surfaces and temperature changes. Also covers prognostic charts. Cleared for TV.

Air Masses and Fronts—The Cold Front *(9 min., sd., color, 16 mm., 1962, Order No. TF 1-5388c, $31.00, USAF)* Film explains the various causes of cold fronts; shows how they appear on the map; examines their typical structures and points out where bad weather usually forms. Also covers summer and winter cold fronts and squall lines. Cleared for TV.

Air Masses and Fronts—The Occluded Front *(9 min., sd., color, 16 mm., 1962, Order No. TF 1-5388e, $31.00, USAF)* The film outlines principles of the occluded front; shows how it forms and discusses its associated weather. Points out the effects of warm and cold air mixtures in summer and winter. Cleared for TV.

Air Masses and Fronts—The Warm Front *(11 min., sd., color, 16 mm., 1962, Order No. TF 1-5388d, $37.25, USAF)* Discusses the hazards of the warm front and shows how it forms. Covers nimbostratus and alto-stratus cold decks, summer and winter patterns, areas of instability and structural ice. Cleared for TV.

The Air Weather Service of the USAF *(14 min., sd., color, 16 mm., 1966, Order No. SFP 1359, $48.50, USAF)* Portrays Air Weather Service's (AWS) global network of weather facilities. Shows how AWS provides accurate weather information for military use through its weather centrals, forecast centers, base weather stations, observation sites and world-wide weather reconnaissance and atmospheric sampling missions. Cleared for TV.

Atmospheric Stability and Instability: Adiabatic Process *(14 min., sd., color, 16 mm., Order No. MN 7894-b, $48.50, USN)* Explains the adiabatic process by showing what happens when a parcel of dry or moist air is raised or lowered by convection, the relationship of temperature and saturation at different altitudes, and the plotting of temperature and moisture content on the adiabatic chart. Gives a detailed description of orographic lifting.

Atmospheric Stability and Instability: Existing Temperature Distribution *(14 min., sd., color, 16 mm., Order No. MN 7894-a, $48.50, USN)* Explains the relationship of temperature distribution and stable and unstable air and how this relationship controls the weather. Shows the characteristics of stable and unstable air and how radiosonde signals are plotted.

Atmospheric Stability and Instability: Stability and the Weather *(8 min., sd., color, 16 mm., Order No. MN 7894-d, $27.75, USN)* Explains the existing lapse rate on the RAOB (radiosonde observation) chart and the relationship to stability and instability in the atmosphere. Shows the difference between the adiabatic lapse rate of moist and dry air.

Atmospheric Stability and Instability: Thermal Convection *(11 min., sd., color, 16 mm., Order No. MN 7894-c, $37.25, USN)* Explains the causes of the vertical air currents in the atmosphere and their relationship to changes in the weather.

Hurricane Hunters *(14 min., sd., b&w, 16 mm., Order No. MN 8339, $25.50, USN)* Describes the hurricane hunting activities of Airborne Early Warning Squadron Four.

Hurricane Hunters *(21 min., sd., b&w, 16 mm., Order No. MN 9422, $37.00, USN)* The mission and operating techniques of the "Hurricane Hunters," Airborne Early Warning Squadron FOUR; the services that they provide and the benefits derived by the nation from their effort.

Know Your Clouds *(16 min., sd., color, 16 mm., 1967, Order No. TF-46-3724, $55.00, USA)* Describes the development of the ten basic kinds of clouds, their principal characteristics, their relative positions and average altitudes, and their flight hazards.

Meteorology—The Cold Front *(14 min., sd., color, 16 mm., Order No. MN 9487-D, $48.50, USN)* Formation characteristics and flight hazards of cold fronts. How to fly cold front weather with maximum safety.

Meteorology—Fog and Low Ceiling Clouds *(23 min., sd., color, 16 mm., Order No. MN-9487-B, $78.25, USN)* Theory of fog formation. Illustrates advection fog, ground fog and low ceiling clouds.

Meteorology—Fog and Low Ceiling Clouds *(9 min., sd., color, 16 mm., Order No. MN 9487-C, $31.00, USN)* Upslope fog. Frontal fog and low ceiling clouds which develop in upslope and frontal situations.

Meteorology—Ice Formation on Aircraft *(21 min., sd., b&w, 16 mm., Order No. MN 9487-A, $37.00, USN)* How structural ice interferes with normal flight procedures and how the hazard can be reduced.

Meteorology—The Warm Front *(17 min., sd., color, 16 mm., Order No. MN 9487-E, $58.50, USN)* Formation characteristics and dangers of warm fronts and how to recognize and combat the flight problems involved.

Modern Weather: Theory and Structure of Storms: Weather in Various Parts of an Occluded Wave *(23 min., sd., b&w, 16 mm., Order No. TF 1-726, $40.50, USAF)* Describes the characteristics of warm, cold, and occluded fronts; shows the types of clouds associated with each type of front; tells how an occluded front is produced; and explains how to fly through an occluded front.

A New Look at Fog *(13 min., sd., color, 16 mm., 1967, Order No. FA-608, $52.50, FAA)* Explains how marginal weather caused by fog is being researched at the University of California fog test chamber.

Sponsored by the Federal Aviation Administration, the chamber is used primarily for different lighting patterns for airport approach, runway, touchdown, and centerline locations. This film reveals the initial findings of the new chamber including the recently authorized 1800 foot runway visual range visibility condition. Cleared for TV.

Pressure Systems and Wind *(19 min., sd., color, 16 mm., 1963, Order No. TF 46-3274, $65.00, USA)* Phenomena of pressure systems and wind flow and how they affect weather and flight conditions.

Radar Eyes the Weather. Part A: Fundamentals of Radar Meteorology *(25 min., sd., b&w, 16 mm., Order No. TF 1-5344-a, $43.75, USAF)* Discusses the basic principles of radar meteorology. Explains reflectivity and factors affecting it, such as hydrometers and precipitation attenuation; demonstrates use of the PPI and RHI scope; shows various types of clouds and describes their characteristics.

Radar Eyes the Weather. Part B: Analysis of Severe Weather *(21 min., sd., b&w, 16 mm., 1961, Order No. TF-1-5344-b, $37.00, USAF)* Explains the necessary use of weather data from other sources in addition to radar scope readings when the approach of severe weather seems imminent. Shows how the meteorologist must be alert for areas of deception such as squall lines resembling cold fronts and other situations which might cause ambiguous scope readings.

Scatter Radar: Space Research from the Ground *(23 min., sd., color, 16 mm., $114.00, ESSA)* Describes the installation of and the upper atmosphere research carried on at the Jicamarca Observatory, established near Lima, Peru. The technique used for scatter radar research at Jicamarca is explained through the use of simple animation. Cleared for TV.

Tornado! *(15 min., sd., color, 16 mm., $51.75, ESSA)* The story of a typical midwestern city that lies in the path of a destructive tornado. Includes scenes of a tornado in action and describes protective preparations. Shows weather conditions which generate tornadoes as well as ESSA-Weather Bureau methods of charting conditions and issuing warnings to the public. Cleared for TV.

Weather and Radar *(17 min., sd., b&w, 16 mm., Order No. MN 119-1, $30.50, USN)* Illustrates some of the operational values to be gained by using radar in locating and identifying weather disturbances, including cold fronts, warm fronts, thunderstorms, typhoons, and hurricanes. Characteristic echo patterns on the PPI (planned-position-indicator) scope are shown.

Weathermen of the Sea *(14 min., sd., b&w, 16 mm., 1948, $28.00, USCG)* Presents an excellent idea of the importance of duties and service to man performed by the ocean weather station vessels operated by the Coast Guard. The activities of one vessel at a point in rough North Atlantic waters are followed on its tour of duty.

Your Air Weather Service *(30 min., sd., color, 16 mm., 1962, Order No. SFP 1037, $101.00, USAF)* Portrays Air Weather Service Control Center at SAC Command Post where worldwide weather conditions are gathered, computer processed and transmitted to subordinate weather units. Emphasizes the importance of advance weather data to insure successful missions of U. S. global Air Force activities.

FOR ADDITIONAL FILMS ABOUT WEATHER
SEE—CIVIL DEFENSE

MISCELLANEOUS

The Alaskan Earthquake, 1964 *(20 min., sd., color, 16 mm., 1966, $68.25, USGS)* Uses animated scenes, documentary footage, and models to show the causes of earthquakes, the locations of principal earthquake zones, and the relationship between geologic environment and earthquake damage. Describes the earthquake-prone zone known as the circum-Pacific belt; shows the disastrous effects of the Good Friday 1964 earthquake on population centers such as Anchorage and Valdez; and explains the damage in terms of geologic environment. Points out engineering problems that confront urban development in earthquake-prone areas.

Big River *(15 min., sd., color, 16 mm., $65.00, USCE)* This movie emphasizes the essential role of the Mississippi River as the main artery of the vast inland navigation system of the United States. Live photography is used to contrast early steamboat navigation with modern diesel towboats and to show various port facilities, the great variety of commodities and boats using the waterways, channel maintenance activities of the U.S. Army Corps of Engineers, transportation of the Saturn booster demonstrating the water transportation role in the defense and space programs, and industrial development along the Mississippi River illustrating the value of a dependable navigation system to economic growth. Maps are also used in several sequences for orientation purposes.

Biology Plus *(33 min., sd., b&w, 16 mm., Order No. OE 503, $56.75, USOE)* Presents the traditional subject matter of biology, with the additional series of student laboratory and field experiences.

The Cape Cod Canal Story *(15 min., sd., color, 16 mm., $51.75, USCE)* Shows canal operation, present-day improvements made by the Corps of Engineers, and maintenance procedures such as channel dredging aboard the dredge COMBER. Beautiful scenic shots emphasize the canal as both a tourist attraction and an important waterway.

Christmas Crisis on the Willamette *(14 min., sd., b&w, 16 mm., $25.50, USCE)* The story of the operation of flood control dams in the Willamette Valley, Oregon, during the flood emergency of December 1964 and January 1965. Briefly tells of conditions prevailing before the flood, that Corps of Engineers' reservoirs were empty in anticipation of the flood that followed, and how the Portland District Water Control Section operated the dams to obtain maximum benefits. Includes flood scenes in various sections of the Willamette Basin and concludes with a listing of damages prevented and flood control dams under construction and those authorized for construction.

The Columbia—River of Planned Destiny *(27 min., sd., color, 16 mm., $91.25, USCE)* Depicts accomplishments of the Corps of Engineers and other Federal agencies concerned with water resources in the development of the Columbia River Basin from a standpoint of power, navigation, irrigation, flood control, fish and wildlife preservation, and recreation.

Extra Dividends *(14 min., sd., color, 16 mm., $48.50, USCE)* Opens with a short, dramatic reference to the importance of flood-control planning, and demonstrates added benefits of reservoir development for public use. Shows the great out-of-doors' attractions surrounding Corps of Engineers' projects in southern Missouri and Arkansas.

Flue Gas Analysis (Orsat Apparatus) *(19 min., sd., b&w, 16 mm., Order No. OE 367, $33.75, USOE)* How to set up the Orsat gas analyzer; collect an air-free sample of flue gas; absorb and measure the amounts of carbon dioxide, oxygen, and carbon monoxide in the sample; and calculate the amount of nitrogen.

Gateway to Mid-America *(25 min., sd., color, 16 mm., $188.00, USCE)* Tells the story of the operation of the locks of Sault Ste. Marie, Michigan. These locks are the key to movement of waterborne commerce from Lake Superior to the industrial centers of the midwest and eastern seaboard.

Laser—Miracles with Light *(24 min., sd., color, 16 mm., Order No. MF-11-5131, $81.50, USA)* Explains what Laser is, how it works, and how it is being applied in the Army—also covers its use in medicine and scientific research.

Levees on the Lower Mississippi *(21 min., sd., color, 16 mm., $135.00, USCE)* The story of levees on the Lower Mississippi River, using scenes of record floods to portray the need for flood control in the Lower Valley. With emphasis on construction, the film covers the history and development of levees, purpose and extent of the system, site selection, the inspection, and maintenance.

Modern Geodetic Surveying *(18 min., sd., color, 16 mm., 1967, Order No. MN-10203, $61.75, USN)* The need, nature and means of geodetic surveying as it exists today with emphasis on the challenge of the future.

Mono Lake Project *(25 min., sd., color, 16 mm., $114.00, USCE)* Outlines the objective of the Mono Lake underwater explosion experiments, describes in detail the experimental procedures used in accomplishing the test program, and the results of water-surface wave measurement on the shore of the lake arising from the detonation of 10 five-ton explosive charges. Several of the underwater detonations are shown and certain conclusions drawn from the test series.

The Other Side of the River *(28 min., sd., color, 16 mm., $160.00, USCE)* Tells the story of 1965 Upper Mississippi River flood, its destruction, aftermath, and ways to help alleviate future flood damage.

Oxygen, Nitrogen Generating Plant Distillation Column Control *(24 min., sd., color, 16 mm., 1960, Order No. TF 1-5334, $81.50, USAF)* Shows the progressive flow and treatment of atmospheric air through a typical oxygen, nitrogen generating plant to produce either liquid or gaseous oxygen or nitrogen.

Pioneer on the Columbia *(19 min., sd., color, 16 mm., $65.00, USCE)* Tells the story of Bonneville Dam and the part this first multi-purpose project on the mainstem Columbia River has had and continues to have on the Pacific Northwest. The story is told with a high school class visiting the Portland Engineer District office to learn of the contributions the project has made to the Columbia Basin and the types of employment that class members should prepare themselves for in order to fit into this geographic area.

Plan for Protection *(14 min., sd., color, 16 mm., $48.50, USCE)* Shows damages caused by three major hurricanes in Providence, Rhode Island, and the Corps of Engineers' plans for the protection of the entire Narragansett Bay area by the use of two hydraulic models. One model was of the entire Bay and the other was a larger scale model of East Passage, the main navigation entrance. Shows tests conducted to prove the maneuverability of Navy vessels through one of the barriers during the worst storm of record.

Response to Disaster *(20 min., sd., color, 16 mm., $75.00, USCE)* Shows widespread destruction caused by the Good Friday, 1964, Alaskan earthquake; reconstruction problems presented by geological conditions, including changes in harbor depths and land elevations; and discusses activities of the Office of Emergency Planning, the Federal Reconstruction and Development Planning Commission for Alaska, the Corps of Engineers, and other Federal agencies for restoration of damaged public facilities to help speed recovery from a major seismic disaster.

Restless River *(20 min., sd., color, 16 mm., $130.00, USCE)* Presents, simply and clearly, reasons for channel stabilization works on the Lower Mississippi River, many methods attempted in the past, and operations used today in placing flexible concrete mattress at troublesome spots on the banks of this restless, meandering river.

Rx for a River *(17 min., sd., color, 16 mm., $68.00, USCE)* This movie shows how the Lower Mississippi River, if left to its own devices, would meander its way to the Gulf of Mexico in an ever-changing pattern of alignment, eroding its banks, breaching protective levees, destroying property, ruining the navigation channel, and disrupting waterborne commerce. The overall "prescription" of the Army Engineers to place and maintain the Lower Mississippi River in a fixed channel is explained clearly by artwork.

Science Through Discovery *(28 min., sd., b&w, 16 mm., Order No. OE 504, $48.75, USOE)* Shows children in grades one through six learning about science through a variety of procedures with emphasis upon experimenting, demonstrating, and thinking.

The Sea River *(14 min., sd., color, 16 mm., 1965, $48.50, USGS)* Documents the first scientific measurement of the Amazon conducted in the summer of 1963 by a four-man team from the U. S. Geological Survey in co-operation with the Brazilian Navy and the University of Brazil. Includes scenes of the river, of the rain forests along its banks, and of the town of Obidos. Shows the team at work using modern hydrologic and electronic distance-measuring instruments, and explains how the equipment was used to gather data never before known about the river.

Shackles for the Giant *(25 min., sd., color, 16 mm., $87.00, USCE)* Shows, by animation and live photography, the development of the present flood-control plan and details of the plan in the lower alluvial valley of the Mississippi River. Portrays need for flood control by scenes illustrating the great damage and suffering caused by floods. Includes scenes of levees, cutoffs, revetments, and other features of the project as well as scenes of the operation of flood-control structures, such as the Bonnet Carre Spillway.

Speaking of Models *(28 min., sd., color, 16 mm., $110.00, USCE)* Shows how hydraulic model studies at the U. S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, aid in planning and designing Corps of Engineers' projects for flood control, navigation, and hydroelectric power. Models shown are Greenup Locks and Dam, East Passage of Narragansett Bay; Savannah Harbor; Texarkana Dam Outlet Works; and Old River Control Structure. Tide machine instrumentation is also discussed and illusrated.

The Statistical Design of Experiments *(20 min., sd., color, 16 mm., Order No. FN 8874, $68.25, USN)* Explains the fundamental concepts of modern statistical design of scientific experiment.

Thousand-Mile Miracle *(23 min., sd., color, 16 mm., $147.00, USCE)* In a typical day of sounds and scenes along the Gulf Intracoastal Waterway, the viewer meets, in turn, a towboat crew, a Corps of Engineers' survey boat, commercial fishermen, a refueling crew, and many others whose lives and fortunes are related to this miracle of water transport. The role of the Corps of Engineers for construction and maintenance of the waterways is also a part of this story which ends dramatically with a night-time storm and the calm of a new day.

Tidal Power *(22 min., sd., color, 16 mm., $74.75, USCE)* Records the study made by the United States and Canada of the economic feasibility of harnessing tidal power for electrical energy in the areas around Passamaquoddy and Cobscook Bays in Maine and New Brunswick. Film includes a tour of project sites with an explanation of the comprehensive plan for the huge project.

Time Bomb in the River *(24 min., sd., color, 16 mm., $87.00, USCE)* The documentary story of the search, recovery, and salvage of four huge tanks of dangerous liquid chlorine from the Mississippi River near Natchez, Mississippi. The picture covers the emergency planning of the Federal agencies, the states, local governments and the Red Cross to protect the health and welfare of 80 thousand residents in a radius of 30 miles of the sunken barge.

Towboats A'comin' *(28 min., sd., color, 16 mm., $109.00, USCE)* Describes a multiple-purpose project for developing the Arkansas River for navigation and depicts tomorrow's linking of Arkansas and Eastern Oklahoma to the Nation's system of inland waterways. Dramatic construction photography and significant previews of what this development will mean toward unlocking the natural resources of the region including recreation.

Wildlife on the Mainstem *(27 min., sd., color, 16 mm., $98.00, USCE)* Graphically depicts the abundance of wildlife which lives in harmony with one of man's finest achievements — the complex of six multi-purpose dams and reservoirs constructed by the Corps of Engineers on the Upper Mississippi. The film has spectacularly beautiful nature spots. The mood is set by the major actors—sharp-tailed grouse, beaver, waterfowl, upland game, fish—the gamut of American wildlife.

Young Man River *(28 min., sd., color, 16 mm., $195.00, USCE)* Story of the need for and development of navigation on the 981-mile Ohio River, including brief animation on travel by pioneers and the need for dams to assure stable year-round navigation. The narration, by a professional actor in the role of the Ohio River Division Engineer, leads in the complete story of the latter-day industrial and navigation development and subsequent billion-dollar navigation and dam replacement and modernization program.

SOCIAL SCIENCE

AMERICAN HISTORY

Admiral Burke Takes Command *(12 min., sd., b&w, 16 mm., Order No. MN 8344, $22.25, USN)* Presents portions of the change of command speeches at Annapolis, in August 1955, by the Secretary of the Navy, Admiral Carney, and Admiral Burke, as Admiral Burke is sworn in as new Chief of Naval Operations.

Air Force News Review No. 142—Air Force 20 (1947-1967) *(24 min., sd., color, 16 mm., 1967, Order No. AFNR 142, $81.50, USAF)* Traces history of U.S. air power from its official beginning in 1907. Highlights the early days of aviation, overwhelming might of airpower in World War II and Korean War, establishment of Air Force as a separate service in 1947 and vital role of airpower in Vietnam today. Shows increasing use of transports to airlift troops and equipment to troubled areas and food and medicine to disaster victims. Also outlines U.S. progress in development of aircraft, missiles and space vehicles. Cleared for TV.

The Airmobile Division *(29 min., sd., b&w, 16 mm., 1966, Order No. AIF-15, $50.25, DOD)* Describes the history, organization, and capabilities of the 1st Cavalry Division.

Air Power and the Man *(29 min., sd., b&w., 16 mm., 1965, Order No. SFP 1388, $50.25, USAF)* Reviews the career of General Curtis E. LeMay from flying school graduation in 1929 to his retirement as Air Force Chief of Staff. Covers his feats as a leader of military forces in times of war and peace. Cleared for TV.

Along Our Shores *(15 min., sd., b&w, 16 mm., 1945, $33.00, USCG)* Known also as The Coast Guard at War; Part I; Along Our Shores. Reviews the 1941-45 wartime activities of the U.S. Coast Guard within the continental limits and off the shores of the United States.

The American Soldier in Combat *(29 min., sd., b&w, 16 mm., Order No. AIF 11, $50.25, USA)* Discusses the combat history of the American fighting man from the early days of the struggle for independence to the present era. Portrays campaigns that the American soldier has taken part in, and discusses the circumstances leading to them, the participation of our fighting men, and the outcome. Covers the American Revolution, War of 1812, Mexican War, Civil War, Indian wars, Spanish-American War, capture of Pancho Villa, World Wars I and II, and the Korean war.

An Allied View of American Heritage *(14 min., sd., color, 16 mm., 1965, Order No. SFP 1338, $48.50, USAF)* Tour of Yorktown, Williamsburg, and Jamestown provides officers of allied countries with insight to American heritage. Cleared for TV.

An Answer *(28 min., sd., color, 16 mm., Order No. MN 9797, $94.50, USN)* President Kennedy visits the SECOND Fleet and 2nd Marine Division to view exercises involving air, sea, and amphibious operations.

Battle Glory *(17 min., sd., color, 16 mm., 1962, Order No. TF 21-3144, $58.50, USA)* Recounts the Army's historic past as represented by the 145 battle streamers on the Army flag—from the Revolutionary War to the Korean War.

Command of the Seas: Atlantic *(17 min., sd., color, 16 mm., Order No. MN 7459-c, $58.50, USN)* Explains the functions and operations of the U.S. Navy in the Atlantic Ocean and Mediterranean Sea, including portrayals of visits of the fleet to various European and Mediterranean ports, naval exercises, anti-submarine warfare, and co-operation with the navies of other countries.

Command of the Seas: United States *(17 min., sd., color, 16 mm., Order No. MN 7459-d, $58.50, USN)* Explains the function of the U.S. Navy as that of maintaining command of the seas, and shows the mothballing and demothballing of the fleet, the Navy recruitment program, launching of new ships and submarines, developments in naval research, and the firing of a Viking rocket from a Navy guided missile ship.

Greyhounds of the Sea *(26 min., sd., b&w., 16 mm., 1967, Order No. MN 9726, $45.50, USN)* Narrated by Jack Webb, this film documents the development of the destroyer from the earliest types through to modern nuclear missile destroyers.

Headquarters U.S.A. *(30 min., sd., b&w., 16 mm., Order No. AFIF 70, $52.00, DOD)* Portrays a tour taken by a group of servicemen through Washington, D.C., covering highlights such as the White House, the Capitol, the Washington, Jefferson, and Lincoln Memorials, the National Archives, and the Tomb of the Unknown Soldier.

Heritage of Freedom *(38 min., sd., b&w., 16 mm., 1963, Order No. AFIF 124, $65.25, USA)* Four portrayals delineate the beginnings and background in the growth of liberty.

History of the U.S. Navy: The Civil War, Part I *(19 min., sd., color, 16 mm., Order No. FN 6943-e, $65.00, USN)* Traces the most significant events of the opening years of the Civil War, 1861-62, after comparing the resources of both sides, and explains the basic naval strategy. Major events portrayed include the Monitor-Merrimack combat, the tightening blockade, the Battle of New Orleans, and joint Army-Navy operations on the coast and in inland waters.

History of the U.S. Navy: The Civil War, Part II *(20 min., sd., color, 16 mm., Order No. FN 6943-f, $68.25, USN)* Traces the significant naval events of the Civil War from the end of 1862 to the close of the war.

In Honor of Liberty *(19 min., sd., b&w, 16 mm., Order No. AFIF 77, $33.75, DOD)* A corporal in the U.S. Army describes his first visit to the Statue of Liberty and his feelings concerning its meaning.

Land the Landing Force—The History of Marine Amphibious Operations *(28 min., sd., color, 16 mm., Order No. FH 8938, $94.50, USN)* Development of the amphibious doctrine and use in vertical assault.

Mirror of America *(36 min., sd., b&w, 16 mm., 1964, $62.00, GSA)* Footage taken from the Ford Film Collection in the National Archives. A reflection of the American way of life from 1914-1921, presenting a cross-section view of people and progress and picturing the daily activities, dress, and habits of people as they lived fifty years ago. Includes views of Presidents Wilson and Harding, Thomas Edison, and Henry Ford.

A Nation Builds Under Fire *(40 min., sd., color, 16 mm., 1966, Order No. AFIF-160, $133.75, DOD)* The story of the Vietnamese people and how they are trying to build a free nation under the holocaust of war.

The Naval Wars with France and Tripoli *(26 min., sd., color, 16 mm., Order No. FN 6943-b, $88.00, USN)* Presents through still pictures, using the filmograph technique, the naval history of the United States from 1785 to 1805. Includes scenes of the wars with France, 1798-1800, and with Tripoli, 1801-1805; arrival of U.S. Fleets in the Mediterranean; destruction of the frigate Philadelphia; bombardment of Tripoli; and the march on Derna.

Navy Decline, the New Navy, and the War with Spain, 1865-1898 *(21 min., sd., color, 16 mm., Order No. FN 6943-g, $71.50, USN)* Traces the decline of the U.S. Navy following the Civil War and the subsequent building of the "new Navy" in the 1880's, based on the dynamic philosophy of sea power expressed by Alfred Thayer Mahan. Describes the role of the Navy in the war with Spain and its development into a world naval power.

The Nuclear Navy *(28 min., sd., color, 16 mm, 1967, Order No. MN 10101, $94.50, USN)* Story of the Navy's development of nuclear power and its application in long-range submarines and the growing nuclear surface force. Narrated by Frank Blair.

Old Glory *(28 min., sd., color, 16 mm., 1960, Order No. AFIF 99, $94.50, DOD)* An historical account of the U.S. flag from the Jamestown English flag of 1607 to 1960 and the 50-star flag.

One Force *(20 min., sd., b&w, 16 mm., 1964, Order No. AFIF 136, $35.25, DOD)* Heroic deeds from 1776 to Korean Conflict provide evidence that Americans, although of many racial and national origins, become one military force dedicated to peace and freedom. Cleared for TV.

On Foreign Shores *(25 min., sd., b&w, 16 mm., 1945, $49.00, USCG)* Known also as The Coast Guard at War; Part 2: On Foreign Shores. Reviews the 1941-45 wartime activities of the U.S. Coast Guard in battle zones. Includes scenes of ten invasions in which the Coast Guard participated.

Origins of the Motion Picture *(21 min., sd., b&w, 16 mm., Order No. MN 8103, $37.00, USN)* An historical record of the development of the machinery and arts of the motion picture, from the earliest suggestions of Leonardo da Vinci to the perfected sound motion picture of Edison. Highlighted are the thaumatrope, zoetrope, phenakistoscope, proxinoscope, and the work of Plateau, Daguerre, Muybridge, Marey, Edison, Armat, Dickson, and others. Includes scenes made as early as 1880 and some early naval historical pictures of the Great White Fleet, the submarine "Holland," and 19th century marines.

The Seventh Fleet *(12 min., sd., b&w, 16 mm., Order No. MN 8078, $22.25, USN)* A documentary about the operations and actions of the Seventh Fleet from August, 1949 to 1957.

Story of the Great Lakes *(25 min., sd., b&w, 16 mm., 1954, $45.00, USCG)* Depicts the overall economic significance of the Great Lakes and the important role played by the Coast Guard thereon. A cycle of one full year is covered. Starting with winter, with the lakes icebound, scenes run through opening of traffic in the spring, cover its full flow through summer and fall, and end when winter again brings traffic to a halt.

Story of the Great Rivers *(28 min., sd., color, 16 mm., 1960, $105.00, USCG)* This film shows, with animated maps and live footage, the early days of the Mississippi, Missouri, and Ohio Rivers, the advent of the Coast Guard on those rivers, and their early duties, continuing up to the present. Aids-to-navigation, Search and Rescue, Port Security, flood operations are shown in considerable detail.

The Story of Old Glory *(12 min., sd., color, 16 mm., 1968, Order No. MH-10539, $42.00, USMC)* A history of the American flag from the English flag of St. George, brought to this country by the pilgrims, to the present 50-star banner. Historic battle scenes as the country sought to gain independence and keep it, up to the present conflict in Vietnam.

The Story of the U.S. Lake Survey *(29 min., sd., color, 16 mm., $188.00, USCE)* Shows the historical development of Lake Survey activities in the production of navigational charts of the Great Lakes and related activities, such as measurement of water levels of the Lakes. Present charting methods are emphasized. The geologic history and economic development of the Great Lakes are briefly traced. Narration is interestingly and well presented in non-technical, easy to understand language suitable for schools or the average individual interested in boats and boating.

Theodore Roosevelt, American *(27 min., sd., b&w, 16 mm., Order No. AFSM 555, $47.00, DOD)* Reviews the life and achievements of Theodore Roosevelt from childhood to his death. Consists principally of drawings, cartoons, and still photographs.

Traditions and Achievements of the Army *(26 min., sd., color, 16 mm., Order No. MF 20-8668, $88.00, USA)* Reviews U.S. military history, with special attention to crucial battles and great leaders, and emphasizes the achievements and traditions of the U.S. Army.

United States Arriving *(28 min., sd., color, 16 mm., 1963, Order No. MN 9928, $94.50, USN)* Follows the visit, in June 1963, of John F. Kennedy, late President of the United States, to the FIRST Fleet, Point Mugu, NOTS China Lake, and the Marine Corps Recruit Depot, San Diego. This film is an outstanding narrative of the historic relation between the President's Fleet visit and the history and traditions of the Sea Services.

War of Independence, 1775-1783 *(24 min., sd., color, 16 mm., Order No. FN 6943-a, $81.50, USN)* Presents through still pictures, using the filmograph technique, the general movements of the Continental Army and Navy from 1775 to 1783. Depicts the founding of the Navy, the Battle of Valcour Island, John Paul Jones, and Washington's strategy at Yorktown.

The War of 1812 *(20 min., sd., color, 16 mm., Order No. FN 6943-c, $68.25, USN)* Presents through still pictures and using the filmograph technique, the events leading up to the War of 1812, and the role of the U.S. Navy in this war. Illustrates the origins of such phrases as "Old Ironsides," "Don't give up the ship," and "We have met the enemy and they are ours." Contains a sequence on the writing of the Star-Spangled Banner.

World Wide Naval Operations in Peace and War, 1815-1860 *(23 min., sd., color, 16 mm., Order No. FN 6943-d, $78.25, USN)* Describes contributions to naval science, such as the development of steam power, the screw propeller, improved ordnance, oceanography, and exploration; the Navy's role in protecting American citizens and promoting trade throughout the world; and the Navy's support of military operations in Florida, Mexico, and California.

AMERICAN HISTORY KOREAN WAR

Battle for Time *(29 min., sd., b&w, 16 mm., Order No. CB 101, $50.25, DOD)* Military operations in Korea from July 10 to August 10, 1950.

Carrier Action off Korea *(13 min., sd., b&w, 16 mm., Order No. MN 9272, $23.75, USN)* Shows activities of U.S. Navy airplane carriers and planes during the Korean War.

Chinese Reds Enter War *(21 min., sd., b&w, 16 mm., Order No. CB 104, $37.00, DOD)* Military operations in Korea from October 20 to November 20, 1950.

Command of the Seas: Pacific *(17 min., sd., color, 16 mm., Order No. MN 7459-b, $58.50, USN)* Explains the functions and responsibilities of the U.S. Navy in the Pacific including its operations in U.S. insular possessions and UN protectorates and its activities and accomplishments in the Korean War.

Fire: Artillery Action in Korea *(14 min., sd., b&w, 16 mm., Order No. MF 6-7900, $25.50, USA)* Story of the support given infantry troops in Korea by an artilleryman and his 105-millimeter howitzer which he affectionately calls "Joe."

The First Forty Days *(24 min., sd., b&w, 16 mm., Order No. CMF 45-7761, $42.25, USA)* Presents the first 40 days of American combat in Korea, arrival of troops, unloading of supplies and equipment, combat scenes of Generals Walker and Dean, arrival of replacements, combat scenes at Taejon, blowing up bridges, and establishing defense lines.

Floating Fortress *(14 min., sd., b&w, 16 mm., Order No. MN 7834, $25.50, USN)* Portrays a day's activities aboard a U.S. battleship off the coast of Korea, including bombardment of enemy positions along the shore, and living conditions and habits of officers and crew.

Korean Cease Fire Talks *(18 min., sd., b&w, 16 mm., Order No. CB 112, $32.00, DOD)* Military operations in Korea from June 20 to July 20, 1951.

A Motion Picture History of the Korean War *(58 min., sd., b&w, 16 mm., Order No. AFIF 85, $100.50, DOD)* Presents the Korean War fighting and the problems encountered by American and United Nations forces during the major phases of the battle from the initial gun fire on June 25, 1950 to the armistice on July 27, 1953.

Reds Launch Spring Offensive *(15 min., sd., b&w, 16 mm., Order No. CB 110, $27.00, DOD)* Military operations in Korea from April 20 to May 20, 1951.

Stalemate in Korea *(19 min., sd., b&w, 16 mm., Order No. CB 113, $33.75, DOD)* Military operations in Korea from July 20 to August 20, 1951.

Turning the Tide *(22 min., sd., b&w, 16 mm., Order No. CB 102, $38.50, DOD)* Military operations in Korea from August 10 to September 20, 1950.

UN Counterattack *(17 min., sd., b&w, 16 mm., Order No. CB 111, $30.50, DOD)* Military operations in Korea from May 20 to June 20, 1951.

UN Forces Consolidate Below 38th Parallel *(20 min., sd., b&w, 16 mm., Order No. CB 106, $35.25, DOD)* Military operations in Korea from December 20, 1950, to January 20, 1951.

UN Forces Cross the 38th Parallel *(19 min., sd., b&w, 16 mm., Order No. CB 109, $33.75, DOD)* Military operations in Korea from March 20 to April 20, 1951.

UN Forces Escape Trap *(16 min., sd., b&w, 16 mm., Order No. CB 105, $28.50, DOD)* Military operations in Korea from November 20 to December 20, 1950.

UN Forces Move North *(17 min., sd., b&w, 16 mm., Order No. CB 107, $30.50, DOD)* Military operations in Korea from January 20 to February 20, 1951.

United Nations Campaign in Northeast Korea *(25 min., sd., b&w, 16 mm., Order No. MF 40-7884, $43.75, USA)* Reviews the capture of Seoul and Pyongyang by United Nations forces in the fall of 1950 and describes the role of the U.S. Army 10th Corps in Evacuation of Hungnam.

UN Offensive *(21 min., sd., b&w, 16 mm., Order No. CB 103, $37.00, DOD)* Military operations in Korea from September 20 to October 29, 1950.

UN Offensive Continues *(18 min., sd., b&w, 16 mm., Order No. CB 108, $32.00, USA)* Military operations in Korea from February 20 to March 20, 1951.

With the Marines: Chosin to Hungnam *(24 min., sd., b&w, 16 mm., Order No. MN 7314, $42.25, USN)* Documentary film record of the withdrawal from the Chosin Reservoir area and the naval evacuation operation at Hungnam.

AMERICAN HISTORY VIETNAM WAR

American Navy in Vietnam *(28 min., sd., color, 16 mm., Order No. MN 10276, $94.50, USN)* Narrated by Chet Huntley, this film illustrates the Navy's commitments in Vietnam including bombing and missile strikes, a river assault landing, and civic action.

The Battle *(14 min., sd., color, 16 mm., Order No. MH 10278C, $48.50, USN)* Combat footage centered primarily around operation Piranha, carried out against the Viet Cong stronghold. Planning and execution of the operation. Marine exercising across-the-beach landing techniques. Marines close air support, naval gun fire support and artillery. Employment of helicopters illustrates vertical assault techniques. Capture of Viet Cong prisoners, patrol action and treatment of wounded Marines.

Contact—Ambush *(13 min., sd., color, 16 mm., Order No. MN 10278F, $45.25, USN)* Marine patrol action in Vietnam. Sequences show land and river patrols and a successful attack on a Viet Cong Village. Emphasizes the importance of patrol action in maintaining contact with an elusive enemy.

For Thou Art with Me *(14 min., sd., color, 16 mm., Order No. MH 10278G, $48.50, USN)* The ministry and missions of the chaplains in Vietnam. Chaplains of different faiths administer to the spiritual needs of Marines before, during, and after combat. Role of chaplains in the Civic Action Program.

Full Blade *(14 min., sd., color, 16 mm., Order No. MH 10278B, $48.50, USN)* Civic action program being carried out by the Marine Corps in Vietnam. Vietnamese farmers harvest rice crop for the first time in many years, guarded by Marines who had cleared the area of Viet Cong. Food distributions and medical assistance to the Vietnamese.

Navy Screen Highlights—Strike from the Sea *(14 min., sd., color, 16 mm., Order No. MN 8984W, $48.50, USN)* First Navy report on operations off the coast of Vietnam since bombing of North Vietnam began. Shows Navy gunfire support missions, carrier strikes over North Vietnam, Operation "Market Time" and amphibious warfare.

On Target *(15 min., sd., color, 16 mm., Order No. MH 10278E, $51.75, USN)* Role of United States Marine Corps. Fixed wing aircraft in Vietnam. Re-supply and close air strikes in support of Marine ground forces in combat.

River Patrol *(28 min., sd., color, 16 mm., Order No. MN 10438, $94.50, USN)* The story of one aspect of the American Navy's operations in the Mekong Delta, South Vietnam.

Sand and Steel *(16 min., sd., b&w, 16 mm., Order No. MH 10278, $28.50, USN)* Marines and seabees perform a yeoman task in converting a barren beach into an expeditionary airfield—SATS. Operational aspects of the airstrip as a vital link in adding to the punch of the Marine air/ground team in Vietnam.

AMERICAN HISTORY WORLD WAR II

The Admiralty Islands *(16 min., sd., b&w, 16 mm., Order No. CHRA-8, $28.50, USA)* Historical report of the capture of the Admiralty Islands north of New Guinea by the American 1st Cavalry Division during World War II.

American First Army: Aachen to the Roer River *(25 min., sd., b&w, 16 mm., Order No. CHR-B-30, $43.75, USA)* Scenes of the American 1st Army's advance from Aachen to the Roer River in World War II. Covers activities of the 1st, 9th, 28th, 83rd, and 104th Divisions, and the 3rd Armored Division.

American Ninth Army: Aachen to the Roer River *(31 min., sd., b&w, 16 mm., Order No. CHR-B-29, $53.50, USA)* Scenes of the American 9th Army's advance from Aachen to the Roer River in World War II.

Attack! The Battle for New Britain *(46 min., sd., b&w, 16 mm., Order No. CMF 40-1041, $78.00, USA)* A record of the attacks on Arawae and Cape Gloucester on New Britain from plan to final victory.

Away Boarders *(22 min., sd., b&w, 16 mm., Order No. MN 9031, $38.50, USN)* Presents the story of the U.S.S. Guadalcanal and the capture of the first German submarine in World War II by the commanding officer of that ship.

The Battle of Leyte *(26 min., sd., b&w, 16 mm., Order No. CHR-A-11, $45.50, USA)* Reviews the Battle of Leyte Island during October-December, 1944. Contains scenes of actions of the 10th and 24th Corps of the Sixth U.S. Army and of the U.S. 3rd and 7th Fleets.

The Big Wheel *(17 min., sd., b&w, 16 mm., Order No. CMF 130-7723, $30.50, USA)* History of 35th Infantry Division.

Bougainville *(9 min., sd., b&w, 16 mm., Order No. CHR-A-5, $15.75, USA)* Historical report of the landing operation and subsequent capture of Bougainville in 1943 by the American 37th Division, 14th Corps, and 3rd Marine Division.

D-Day Convoy *(19 min., sd., b&w, 16 mm., Order No. CHR-B-15, $33.75, USA)* Postwar recapitulation of activities prior to and including D-day, showing how American troops were moved from all parts of England to embarkation posts for the Normandy invasion.

Defense of Antwerp Against the V-1 *(21 min., sd., b&w, 16 mm., Order No. CMF 9-1286, $37.00, USA)* Antwerp from the time of its capture by Nazis to its liberation by allied forces—Subsequent battering by the V-1 bomb—Port saved by American and Allied gunners, using a shifting defense strategy knows an Antwerp X.

The Famous Third Army *(22 min., sd., b&w, 16 mm., Order No. CMF 45-7705, $38.50, USA)* Historical review of the advance of the U.S. Third Army across France and into Germany during World War II.

The Fighting First *(15 min., sd., b&w, 16 mm., Order No. CMF 45-1279, $27.00, USA)* Shows scenes of combat operations of the 1st Infantry Division in eight campaigns and three invasions—attacks and counter-attacks on foot and in trucks and assault boats.

The Fleet That Came To Stay *(22 min., sd., b&w, 16 mm., Order No. MN 5802, $38.50, USN)* Explains the invasion of Okinawa from the U.S. Navy point of view and illustrates the operation by scenes of the combat.

Fury in the Pacific *(20 min., sd., b&w, 16 mm., Order No. MN 9045, $35.25, USN)* A photographic record of the invasion of the Palau Islands in 1944.

Hell for Leather *(10 min., sd., b&w, 16 mm., Order No. CMF 45-1278, $17.50, USA)* History of the U.S. 1st Cavalry Division, particularly during World War II.

Hell on Wheels *(17 min., sd., b&w, 16 mm., Order No. CMF 17-7864, $30.50, USA)* Covers the highlights in the history of the 2nd Armored Division.

Invasion of Crete by the German Army *(11 min., sd., b&w, 16 mm., Order No. FB-20-16, $19.25, USA)* A German film, with English sound track, showing the preparations for and the invasion of Crete in 1941.

Invasion of Southern France *(19 min., sd., b&w, 16 mm., Order No. CHR-C-8, $33.75, USA)* Portrays the invasion of southern France by the 7th U.S. Army and its subsequent junction with the 3rd Army in northern France.

Naples to Cassino *(26 min., sd., b&w, 16 mm., Order No. CHR-C-3, $45.50, USA)* Scenes of fighting during the drive of Allied forces from Naples to Cassino, Italy, during World War II.

Normandy Invasion *(19 min., sd., b&w, 16 mm., 1944, $38.00, USCG)* Photographic record by U.S. Coast Guard combat photographers of the preparations for and the invasion of Europe in 1944.

San Pietro *(33 min., sd., b&w, 16 mm., Order No. CR2, $56.75, USA)* Documentary historical record of the battle of San Pietro in World War II and of the 5th American Army in this battle.

Sea Power in the Pacific *(30 min., sd., b&w, 16 mm., Order No. MN 6124, $52.00, USN)* Traces the history and depicts the role of American sea power in the Pacific during World War II.

Seventh Infantry Division *(22 min., sd., b&w, 16 mm., Order No. CMF-45-7533, $38.50, USA)* Shows the training of the 7th Infantry Division at Ft. Ord, Calif.; action of the Division in four major campaigns—Attu, Leyte, Kwajalein, and Okinawa; and occupational duties in Korea.

Sixth Infantry Division *(20 min., sd., b&w, 16 mm., Order No. CMF-7-1297, $35.25, USA)* Scenes of 6th Infantry Division combat operations in New Guinea: securing Maffin Bay area, amphibious landing at Sansapor to build air base, and assault landing at Lingayen Gulf, Luzon.

The Stillwell Road *(51 min., sd., b&w, 16 mm., Order No. CR 3, $89.25, USA)* Documentary record of the construction of a supply road through the mountains and jungles of Burma in World War II.

The Story of the Black Cats *(19 min., sd., b&w, 16 mm., 1944, Order No. MN 4208B, $33.75, USN)* A PBY squadron in the Southwest Pacific Theater goes out on a night mission to destroy a Japanese convoy.

The Twenty-sixth Infantry Division *(16 min., sd., b&w, 16 mm., Order No. CMF-130-7872, $28.50, USA)* Reviews briefly the origin of the Twenty-sixth Infantry Division in 1917, and covers in detail its activities and achievements in World War II.

The Victory Division: 24th Infantry *(17 min., sd., b&w, 16 mm., Order No. CMF-130-7722, $30.58, USA)* History of the 24th Infantry Division in the Pacific area during World War II.

Winged Victory on Foot: 43d Infantry Division *(14 min., sd., b&w, 16 mm., Order No. CMF-130-7553, $25.50, USA)* History of the U.S. 43d Infantry Division from its activation in 1941 throughout World War II.

27th Infantry Division *(20 min., sd., b&w, 16 mm., Order No. CMF-130-7929, $35.25, USA)* Reviews the history of the 27th Infantry Division, particularly its part in the campaigns of Makin, Eniwetok, Saipan, and Okinawa during World War II.

29th Infantry Division *(19 min., sd., b&w, 16 mm., Order No. CMF-130-7554, $33.75 USA)* History of the activities of the 29th Infantry Division from training camp to Germany. Shows amphibious maneuvers in England, and combat operations in Normandy, St. Lo, Brest, and Germany.

32nd Infantry Division *(18 min., sd., b&w, 16 mm., Order No. CMF-130-7930, $32.00, USA)* Traces the history of the U.S. Army's 32d Infantry Division through the Civil War, Spanish-American War, Mexican Border campaign, World War I and World War II. Highlights its action at Buna, Saidor, Anitape, Leyte, Luzon, and in the occupation in Japan.

36th Infantry Division *(21 min., sd., b&w, 16 mm., Order No. CMF-130-7931, $37.00, USA)* Historical record of the 36th Infantry Division during World Wars I and II, particularly its part in the battles at Salerno, San Pietro, Cassino, Anzio, and in Germany.

The 82nd Airborne Division *(21 min., sd., b&w, 16 mm., Order No. CMF-45-1426, $37.00, USA)* History of the 82nd Airborne Division in World Wars I and II: training prior to combat; fighting in Sicily, Salerno, Anzio, Normandy, Holland, and the Battle of the Bulge; and the Fifth Avenue victory parade.

ARCTIC AND ANTARCTIC

Air Operations in the Antarctic *(16 min., sd., color, 16 mm., Order No. MN 8775, $55.00, USN)* Discusses the variety and scope of air operations in the Antarctic, and describes in detail ground operations, pre-flight check, preheating, starting, taxiing, take-off, landing, parking, and securing.

Alaskan Patrol *(28 min., sd., color, 16 mm., 1957, $105.00, USCG)* A general interest film showing the Coast Guard on Bering Sea Patrol in the Alaskan area. Protecting the Pribilof seal herds, enforcing Halibut fishing regulations, providing medical aid for the Eskimos. Also interesting scenes of the Eskimos working, how they live, and rare scenes of a Nalukatuk dance.

Coast Guard Cutters Around the Continent *(28 min., sd., color, 16 mm., 1958, $102.00, USCG)* This documentary presents the story of Coast Guard participation in the 1957 Arctic Operations, including circumnavigation of North America. USCG Cutters STORIS, BRAMBLE, and SPAR are shown in their sometimes uncertain but eventually successful battle to locate and chart the last link in the 450 year-old search for the famous "Northwest Passage." Winner of the following First Awards: International Film Festival, Edinburgh; Canadian Film Festival, Ottawa; International Film Festival, Salerno.

Coast Guard Icebreakers *(28 min., sd., color, 1958, 16 mm., $108.00, USCG)* In striking color, this film provides a panoramic view of the Coast Guard's far-flung icebreaking operations in the Arctic and Antarctic, and on the Great Lakes and Rivers. It includes participation in the construction of Thule Air Base in Greenland, and historical sequences showing the development of the icebreaking function.

Coast Guard in Alaska *(28 min., sd., color, 16 mm., 1962, $108.00, USCG)* An information film presenting the operations of the Coast Guard in Alaska, including buoy tender operations, re-supply of lighthouses and LORAN stations, and Search and Rescue. Contains maps identifying areas of Coast Guard operations. Both winter and summer footage shown, including aerial scenes of snow-covered mountains, glaciers, forests, cities, and towns. Coast Guard responsibilities in Alaska date back to its earliest days, including civil as well as military duties.

Command of the Seas: Arctic *(17 min., sd., color, 16 mm., Order No. MN 7459-a, $58.50, USN)* Explains the functions and responsibilities of the U.S. Navy in the Arctic Ocean; portrays the operations of Navy icebreakers, cargo vessels, submarines, and landing craft; and describes base construction, cold-weather equipment, and wanigan trains.

Cruising the Northern Seas *(11 min., sd., color, 16 mm., Order No. MN 7439, $37.25, USN)* A pictorial record of the 1950-51 winter icebreaker operations conducted by the USS Burton Island in the Bering Seas. Shows various phases of ice-breaking and helicopter ice reconnaissance techniques.

Ice Breaker *(14 min., sd., b&w, 16 mm., Order No. MN 7336, $25.50, USN)* Record of the annual cruise of a Navy ice breaker from San Diego to Alaska and King Island to study ice conditions. Shows the ship in cold weather operations, life aboard ship during the cruise, and the crew's visit with natives of King Island.

MATS Deepfreeze Airlift *(21 min., sd., color, 16 mm., 1961, Order No. FR 163, $71.50, USAF)* Documentary on the MATS Airlift, conducted the fall of 1960 in support of the Antarctic Scientific Expedition.

On the Ice *(29 min., sd., color, 16 mm., 1968, $106.00, NSF)* Documents the work of the United States Antarctic research program. Includes views of scuba divers swimming with seals under the ice, tunneling into a glacier to measure its movement, studying human adaptation at the South Pole, and observing the social behavior of penguins.

Operation Deepfreeze I *(23 min., sd., color, 16 mm., Order No. MN 8500, $78.25, USN)* Report of the first phase of Operation Deepfreeze, explaining the Navy's contribution to U.S. participation in the International Geophysical Year and showing preparations, departure, voyage, and Antarctic operations.

Operations in Sea Ice: Convoy Operations in Sea Ice *(23 min., sd., b&w, 16 mm., Order No. MN 7419-c, $40.50, USN)* Explains how to conduct Navy convoy operations in the Arctic; shows how the convoy is organized and the use of caution in directing convoy movement; and points out good ice seamanship.

Operations in Sea Ice: Identification of Sea Ice *(13 min., sd., color, 16 mm., Order No. MN 7419-b, $45.25, USN)* Presents standard methods and terminology used in describing and classifying Arctic sea ice. Various types of ice are pictured and described by tracing the life cycle of sea ice and showing the formation of icebergs.

Portrait of Antarctica *(23 min., sd., color, 16 mm., 1961, Order No. MN 8942, $78.25, USN)* Report of the naval and scientific efforts being conducted in the Antarctic during Operation Deep Freeze.

Rendezvous 90° South *(28 min., sd., color, 16 mm., 1961, Order No. SFP 1087, $94.50, USAF)* Depicts the role of the C-130 Hercules in blazing an unrestricted supply line to the South Pole, heart of Antarctica. Pictures some of the research being conducted there and stresses the importance of this scientific work to mankind.

Ships, Men, and Ice *(22 min., sd., color, 16 mm., Order No. MN 7419-a, $74.75, USN)* Traces the history of Arctic exploration, particularly as related to the development of ships for use in frozen Arctic seas, from the fragile ships of Pythias and Eric the Red to modern icebreakers.

Ski Jump II *(22 min., sd., color, 16 mm., Order No. MN 7478, $74.75, USN)* Photographic report of Ski Jump II, a U.S. Navy aerial Arctic project of 1952 with the objectives of testing and improving techniques for landing heavy aircraft on ice, investigating ice islands and sea ice conditions, and oceanographic research.

USS Nautilus: Operation Sunshine *(14 min., sd., color, 16 mm., Order No. MN 8936, $48.50, USN)* Shows events leading up to and during the actual polar passage of the USS Nautilus.

COMMUNITY LIFE

Another Way *(28 1/2 min., sd., color, 16 mm., $80.00, USOEO)* A Job Corps film about the people; the intense personal experiences of three Job Corpsmen in a 10-day election race for Corpsmen government at Parks Job Corps Center in California.

Four Children *(20 min., sd., b&w, 16 mm., $29.00, USOEO)* The story of four Head Start children, so alike as human beings, so different as people. An intimate look at the children and the homes that influence them.

One Dimension, Two Dimension, Three Dimension, Four *(15 min., sd., color, 16 mm., 1967, $60.00, HUD)* Portrays the plight of urban centers in the United States together with the related problems of pollution, transportation, education, and housing, explaining how these problems affect the people living in urban areas. Points out how some areas have moved to solve these problems and how planning for the future is essential to the survival of cities.

Open Space *(28 min., sd., color, 16 mm., 1969, $94.50, HUD)* Illustrates the urgent need for acquiring open spaces in rapidly growing urban areas. Stresses the importance of correctly using present urban open spaces, and urges community groups to create new recreational areas in inner cities and suburbs.

Operation Head Start *(29 min., sd., b&w, 16 mm., 1966, $38.00, USOEO)* Shows the need for the Head Start project, various facets of the program, and its policies as observed in a variety of localities. Includes scenes of the poverty existing in urban and rural ghettos.

The Owl Who Gave a Hoot *(13 1/2 min., sd., color, 16 mm., $42.00, USOEO)* An animated cartoon film that tells it like it is—exploitation, connivance, fraud, in the consumer world of the ghetto, and what to do about it.

Rehab *(23 min., sd., color, 16 mm., 1969, $78.25, HUD)* Illustrates Federal involvement in rehabilitation across the country, focusing on a Boston project involving 2000 units in over 100 buildings.

Storefront *(40 min., sd., b&w, 16 mm., $62.00, USOEO)* Documentary about the training and role of non-professional aides in a neighborhood storefront center. Shot in South Bronx, New York the film shows the anger and frustrations of ghetto life.

While I Run This Race *(29 min., sd., color, 16 mm., 1967, $84.00, USOEO)* Documents the efforts of VISTA volunteers in two settings in Arizona. Shows a retired couple as they organize a preschool program to keep the children of Mexican-American migrants out of the fields. Describes the work of two young men who help a community of Negro farm workers conduct a clean-up campaign and obtain pure drinking water in their settlement.

With No One To Help Us *(19 min., sd., b&w, 16 mm., 1967, $30.00, USOEO)* Demonstrates how the formation of a food-buying club by a group of Newark mothers brought about a necessary change in the community.

A Year Towards Tomorrow *(29 min., sd., color, 16 mm., 1966, $76.00, USOEO)* Describes the difficulties as well as the satisfactions which three VISTA volunteers experience. Shows two girls on a Navajo reservation in Arizona and an ex-Navy volunteer in the slums of Atlanta.

FOREIGN COUNTRIES

Greece *(18 min., sd., b&w, 16 mm., Order No. AFIF 55, $32.00, DOD)* Reviews the history and culture of Greece, and describes her postwar recovery, current economic and social life, and position in NATO.

Iceland *(23 min., sd., b&w, 16 mm., Order No. AFIF 65, $40.50, DOD)* A study of Iceland, covering its historical background; current social, economic and political status; and strategic significance in Western defense plans.

Latin America *(20 min., sd., b&w, 16 mm., Order No. AFIF 113, $35.25, DOD)* Describes the geographical, economic, and political factors that influence the lives of the people of Latin American countries. Explains the role of the United States in the development of these nations and the communist approach to Latin America. Concludes with a statement by President John F. Kennedy.

Panama *(19 min., sd., b&w, 16 mm., Older No. AFIF 60, $33.75, DOD)* Explains the historical background and current social, economic, and military status of Panama. Illustrates Panama's significance to and function and welfare of the United States Armed Forces stationed in the Canal Zone.

Thailand—Where Men Are Free *(20 min., sd., b&w, 16 mm., 1967, Order No. AFIF 162, $35.25, DOD)* Traces modern history, military forces, treaty agreement, economic problems, and geographic areas of Thailand, a country of free people and an anti-communist bastion in Southeast Asia. Depicts communist attempts at the freedom of Thailand, and discusses military help this country receives from SEATO. Also shows how Thailand and the United States are working together toward the common goal of growth and freedom in Thailand.

USAFE Highlights *(23 min., sd., color, 1966-1967, Order No. SFP 1667, $78.25, USAF)* Highlights significant activities of U.S. Air Forces Europe. Covers operations in Germany, France, England, Spain, Libya and Turkey. Includes airlifts to disaster areas, air traffic control, cold weather exercises and fighter wing rotations. Documents closure of U.S. installations in France. Cleared for TV.

You in Japan *(20 min., sd., b&w, 16 mm., Order No. AFIF 78, $35.25, DOD)* Presents a pictorial tour of major Japanese cities and out-lying areas, and explains political, economic, social, religious, and military aspects of Japan.

Your Legal Status in the Republic of Germany *(50 min., sd., b&w, 16 mm., Order No. AFIF 92, $87.50, DOD)* Outlines the legal status of American service men and their families in West Germany. Dramatizes various situations, including a hit and run accident, to show the legal implications that can arise. Emphasizes the importance of abiding by the Status of forces agreement governing the rights, obligations, and conduct of members of a foreign force on the territory of a NATO nation.

GOVERNMENT

Architects of Peace *(23 min., sd., b&w, 16 mm., Order No. AFIF 109, $40.50, DOD)* Describes the vital role of the Department of State in the area of international diplomacy, including the organization, scope, and operations of the Department and the training and responsibilities of foreign service officers in this country and in embassies around the world. Concludes with a statement by Dean Rusk, Secretary of State.

Not by Magic *(13 1/2 min., sd., color, 16 mm., $45.25, GSA)* A brief portrayal of the function of the General Services Administration's Federal Supply Service.

The Presidency *(28 min., sd., b&w, 16 mm., 1967, Order No. AFIF 163, $48.75, DOD)* Depicts evolution of the constitutional powers and day-to-day duties of the President of the United States. Explains how Presidential decisions have become almost too burdensome for one person. Shows how Presidential decisions have shaped the character of our nation and even created turning points in history. Discusses the relationship of the Executive, Legislative, and Judicial branches of government and points out the system of checks and balances maintained on the Presidential office.

Your Congressman at Work *(22 min., sd., color, 16 mm., Order No. AFIF 79, $74.75, USA)* Presents a typical day in the life of a member of Congress, and urges all members of the Armed Forces to become familiar with the issues and candidates in forthcoming elections, and to vote.

Your National Archives *(19 min., sd., color, 16 mm., 1956, $65.00, GSA)* Portrays and explains the functions of the National Archives of the U.S., including preservation of Federal records (documents, publications, maps, recordings, photographs, films, etc.), exhibition of important historical documents, reference service pertaining to its materials, and reproduction upon request of these materials on microfilm and as photostat copies.

INTERNATIONAL RELATIONS

Building a Nation *(9 min., sd., color, 16 mm., 1968, Order No. SFP 1870, $31.00, USAF)* Depicts civic action programs conducted by Air Force in Vietnam to help the people of that country raise their standard of living. Shows educational, medical and recreational activities and construction projects. Cleared for TV.

County Fair *(14 min., sd., color, 16 mm., 1967, Order No. MH 10278 H, $48.50, USMC)* Operation of clearing the Vietcong from villages while the people are cared for, fed and entertained.

Crossover *(14 1/2 min., sd., color, 16 mm., 1963, Order No. SFP 1151, $50.00, USAF)* Off on a goodwill tour of South America go the famous Thunderbirds to thrill thousands with spectacular aerial demonstrations.

From Where I Sit *(27 min., sd., b&w, 16 mm., $41.00, USDS)* Increased trade with Communist countries and Soviet-South American-U.S. coastal fishing rights are two foreign policy issues examined in depth through on-the-spot interviews with representatives of foreign countries directly concerned as well as with fishermen, longshoremen, and businessmen who all have a stake in the ultimate solution. Other foreign policy issues presented range from relatively obscure questions to the great problems of peace and war. No solutions are offered, and the viewer is left to come to his own conclusions, using the "tools" provided in the film.

The Gentle Hand *(28 min., sd., color, 16 mm., 1968, Order No. MN 10388, $94.50, USN)* This is the story of American Navy Surgeons giving medical aid and instructions to South Vietnamese patriots in the picturesque village of Rach Gia, Republic of Vietnam.

Heart of the Navy *(14 min., sd., b&w, 16 mm., Order No. Mn 8224, $25.50, USN)* Shows how the Navy provided help during the Berlin blockade, the winter storms of January 1949, the Greek island quakes of August 1953, the Vietnam evacuation of August 1954, and the Mexico flood of October 1954. Also shows how the Navy aided Korean orphans in 1953.

International Naval Review *(11 min., sd., color, 16 mm., Order No. MN 8771-a, $37.25, USN)* Shows high spots of the festival at Jamestown, including the U.S. Atlantic Fleet welcoming seventeen visiting navies to the international naval review at Norfolk, Va.

Medical Civic Action in the Americas—Alas Para La Salud *(23 min., sd., color, 16 mm., 1966, Order No. SFP 1367, $78.25, USAF)* Depicts the various public health and welfare programs through which the armed forces of any Latin American country can assist the health and welfare of its people. Shows how trained specialists, especially air force, in preventive medicine, medical services, veterinary services and related fields can do much to raise mental and physical health level in isolated villages. Also points out how the U.S. school for Latin America plays a vital role in support of the civic action concept. Cleared for TV.

Military Civic Action *(31 min., sd., b&w, 16 mm., 1964, Order No. TF 20-3443, $53.50, USA)* Past and present role of U.S. Army in military civic action, both in CONUS and in assisting Armed Forces of underdeveloped nations abroad.

Mobile Yoke *(16 min., sd., color, 16 mm., 1960, Order No. SFP 1052, $55.00, USAF)* Describes Mobile Yoke, a good will training exercise in which a Tactical Air Command composite air strikes forces is deployed to Thailand, discussing briefings, support activities, pre-flight activities and the actual deployment and good will activities in Thailand.

Ngung Lai *(26 min., sd., color, 16 mm., 1967, $98.00, USCG)* The story of vessel preparation, special personnel training, deployment and patrol operations of the twenty-six 82-foot cutters and their crews assigned to Operation Market Time in South Vietnam. With U.S. Navy and South Vietnamese vessels they patrol the sea approaches to stop the Viet Cong from bringing in supplies from the North. Firefights, inspection and fire support missions are tempered with civic action efforts of 82-footer crews to bring relief to Vietnamese villagers. Cleared for TV.

Operation Quick Span *(14 min., sd., color, 16 mm., 1960, Order No. SFP 1030, $48.50, USAF)* Presents the story of Operation Quick Span in which a Tactical Air Command friendship force conducts ground displays and aerial demonstrations at selected Central Treaty Organization cities and airfields. Cleared for TV.

The Other Vietnam *(29 min., sd., color, 16 mm., $83.00, AID)* Shows Vietnamese engaged in their own self-improvement, as well as American civilian specialists who work beside and among them in applying new farming techniques, developing industry, raising the educational level, and improving health and nutrition. Cleared for TV.

Quiet Battle *(28 min., sd., color, 16 mm., $83.00, AID)* Quiet Battle is a motion picture about the U.S. foreign assistance program. It is an eyewitness portrayal of American aid at work, helping the people of the developing nations in their long struggle to achieve a better life for themselves and their children. The film shows how the quiet battle was won in Greece and Taiwan and how it still goes on in other parts of the free world. It illustrates what can be done by showing what has been done. Quiet Battle is a lively and accurate account of an important episode in world history, told by the people who saw it happen. Cleared for TV.

Seabee Teams *(30 min., sd., color, 16 mm., 1966, Order No. MN 10393, $101.00, USN)* Story of Navy "STAT" teams training Vietnamese to build roads, homes, and schools in South Vietnam.

A Simple Cup of Tea *(28 min., sd., b&w, 16 mm., $41.00, AID)* Ben Ferguson, farmer, teacher, rancher, businessman, an agricultural advisor of the agency for International Development applies his know-how and experience to farming in Pakistan. Cleared for TV.

To Labor as One *(24 min., sd., color, 16 mm., 1965, Order No. SFP 1346, $81.50, USAF)* Portrays mission of the Armed Forces Staff College which orients American and Allied military officers in joint and combined organization, planning, and operations. Shows how the college conducts seminars on joint war problems, field trips to military installations, and discussions on interservice and Allied understanding. Cleared for TV.

Toward a Free World *(30 min., sd., color, 16 mm., 1962, Order No. SFP 1112, $101.00, USAF)* Depicts vast educational facilities of USAF and its role in training of allied students under the MAP program.

Tower to the Sky *(28 min., sd., color, 16 mm., 1966, $105.00, USCG)* The story of the construction of a Coast Guard LORAN station on the primitive western Pacific island of Yap as told by an elder of the island community. Portrays the initial antagonism of the community regarding the construction of the station and its change of attitude by the time the station was completed. Cleared for TV.

The Unending Struggle *(29 min., sd., b&w, 16 mm., $41.00, USDS)* The abstractions of U.S. foreign policy are brought to life through sequences, photographed on location as they happened in Ecuador, of the daily activities of American officials of the U.S. Mission to that country: the Ambassador negotiating with the government heads, a consul assisting an imprisoned American at the Quito jail, labor attaches at work among the banana loaders on the Guayaquil docks, an Alliance for Progress program in an Andean mountain-top village, U.S. Army guerrilla-warfare experts training Ecuadorean soldiers in counter-insurgency techniques, etc.

The United States and Western Europe *(29 min., sd., b&w, 16 mm., $41.00, USDS)* The subjects covered include: the status of NATO and Atlantic security in the mid-1960's; the differing perspectives of France and her allies; the development of Western Europe since World War II, with particular attention to the European unity movement; the nature and significance of the Organization for Economic Co-operation and Development, the Common Market, and the Outer Seven; and a survey of U. S. policy toward Western Europe in the postwar period.

USAF Air Commandos *(12 1/2 min., sd., color, 16 mm., 1965, Order No. SFP 1268, $43.75, USAF)* Portrays mission of U.S. Air Force's air commandos. Explains how, when and why they assist other countries asking for help. Points out their capabilities in terms of training and equipment and their roles as instructors and pilots. Cleared for TV.

War and Advice *(20 min., sd., b&w, 16 mm., 1964, Order No. AFMR 624, $35.25, USAF)* Depicts role of special U.S. forces who serve as observers and instructors for Vietnamese troops. Shows how American aid and influence reach into military, political, psychological and economic areas with good will and support of the people as a primary objective. Depicts alert practices in strategically constructed hamlets where civilians also do their part in resisting the Viet Cong. Cleared for TV.

The World at UN Plaza *(29 min., sd., color, 16 mm., $82.00 , USDS)* An inside look at the work of the United States "embassy" to the U.N., it is also a study of the United Nations itself. Its highlights include glimpses of behind-the-scenes United Nations diplomacy, recollections of the Security Council debates during the 1967 Middle East crisis, and a U.S. Mission reception for General Assembly delegates on a boat circling Manhattan. Its purpose is to suggest, through a series of impressions of life at United Nations Plaza (the area of Manhattan where the United Nations is situated), how the principal U.S. Representative to the United Nations and his colleagues go about the task of representing our country at the U.N.

TECHNICAL

BENCH WORK

Care and Maintenance of Tapered Roller Bearings *(31 min., sd., b&w, 16 mm., Order No. TF 11-257, $53.50, USA)* Explains how to disassemble, clean, inspect, lubricate, and reassemble tapered roller bearings.

Centering Small Stock *(12 min., sd., b&w, 16 mm., Order No. OE 39, $22.25, USOE)* How to locate the center of round, square, and rectangular pieces of stock, using surface gage, hermaphrodite calipers, center head and steel rule, and combination square.

Cutting Threads with Taps and Dies *(19 min., sd., b&w, 16 mm., Order No. OE 34, $33.75, USOE)* Principles of cutting threads with taps and dies; tapping full threads in a blind hole; tapping through holes; and cutting threads with an adjustable die.

Filing *(15 min., sd., b&w, 16 mm., Order No. MN 159, $27.00, USN)* Describes the importance of files and filing in a machinist's work; shows filing techniques, and various types of files and file cuts.

Fitting and Scraping Small Bearings *(24 min., sd., b&w, 16 mm., Order No. OE 36, $42.25, USOE)* How to scrape split bearings for shaft fit and alignment; "relieve" a split bearing to aid lubrication; and cut oil grooves in the cap of a split bearing.

Fundamentals of Filing *(12 min., sd., b&w, 16 mm., Order No. OE 41, $22.25, USOE)* How to care for, handle, and clean files; and select different files for different metals.

Fundamentals of End Cutting Tools *(12 min., sd., b&w, 16 mm., Order No. OE 43, $22.25, USOE)* Radius, threading, sheer-cut finishing, round-nosed finishing, side-facing tools; correct setting of the tools; and the type of cut each one makes.

Fundamentals of Side Cutting Tools *(11 min., sd., b&w, 16 mm., Order No. OE 42, $19.25, USOE)* How side cutting tools are shaped and how they cut; and how generated heat is dissipated.

Laying Out Small Castings *(16 min., sd., b&w, 16 mm., Order No. OE 40, $28.50, USOE)* How to lay out holes for drilling; locate a reference point; and use hermaphrodite calipers, combination square, and surface gage.

Reaming with Straight Hand Reamers *(20 min., sd., b&w, 16 mm., Order No. OE 37, $35.25, USOE)* Types of reamers; how to check the size of reamers; and how to ream straight holes with straight-fluted, helical-fluted, and adjustable-blade reamers.

Reaming with Taper Hand Reamers *(15 min., sd., b&w, 16 mm., Order No. OE 38, $27.00, USOE)* How to hand ream a tapered hole through a shaft and collar; fit a taper pin in the reamed hole; and ream bearing caps for fitting dowel pins.

Scraping Flat Surfaces *(14 min., sd., b&w, 16 mm., Order No. OE 35, $25.50, USOE)* How surface plates are used to check the flatness of surfaces; types of scrapers; how to remove high spots and to determine when a surface is scraped flat.

BLACKSMITHING

The Blacksmith: Calculating and Bending Rings and Links *(21 min., sd., b&w, 16 mm., Order No. MN 2350-a, $37.00, USN)* Teaches elementary shipsmithing including linear calculation of stock, forming of rings and links, forge welding, and the use of common hand blacksmith's tools.

The Blacksmith: Calculating and Forging a Deck Socket Wrench *(19 min., sd., b&w, 16 mm., Order No. MN 2350-b, $33.75, USN)* Shows the steps taken in forging a deck socket wrench, from reading the blueprint and selecting the stock to forging and finishing.

BLUE PRINT READING

Behind the Shop Drawing *(10 min., sd., b&w, 16 mm., Order No. MN-37, $17.50, USN)* Isometric, Perspective, Orthographic Projection and Cross Section Drawings; How Dimensions and Specifications are indicated.

Principal Dimensions, Reference Surfaces and Tolerances *(12 min., sd., b&w, 16 mm., Order No. OE 53, $22.25, USOE)* Relationship between the blueprint and a rough and finished casting; how to use a blueprint in selecting reference surfaces; interpret tolerances; and check the accuracy of finished work.

Reading a Drawing of a Valve Bonnet *(20 min., sd., b&w, 16 mm., Order No. OE 55, $35.25, USOE)* How to interpret conventional symbols and tolerance specifications and use the blueprint in planning machine operations.

Reading a Three-View Drawing *(10 min., sd., b&w, 16 mm., Order No. OE 52, $17.50, USOE)* How to use a blueprint to visualize the object; interpret a blue print; and make a tool block according to specifications shown on a blueprint.

Sectional Views and Projections, Finish Marks *(15 min., sd., b&w, 16 mm., Order No. OE 54, $27.00, USOE)* Dimension, center, cross-section, and object lines; projection of a sectional view; uses of finish marks; and meanings of standard cross-section lines.

Visualizing an Object *(9 min., sd., b&w, 16 mm., Order No. OE 51, $15.75, USOE)* How a blueprint is developed; how dimensions are shown by different views; and how special information is indicated on a blueprint.

CARBIDE CUTTING TOOLS

Brazing Carbide Tools *(18 min., sd., b&w, 16 mm., Order No. OE 241, $32.00, USOE)* Characteristics of carbide tools; how to braze carbide tools with silver solder; make a sandwich braze; braze by other methods; and remove the carbide tip from the shank.

Carbide Woodworking Tools: Care and Grinding *(13 min., sd., b&w, 16 mm., Order No. MN 7977-a, $23.75, USN)* Shows how to store and issue carbide woodworking tools, how to handle them for transporting, and how to grind them. Discusses advantages and special characteristics of the tools.

Carbide Woodworking Tools: How to Use *(15 min., sd., b&w, 16 mm., Order No. MN 7977-b, $27.00, USN)* Demonstrates the correct use of cemented carbide tools on the vertical spindle shaper, table saw, over-arm radial saw, straight line rip saw, trim saw, bandsaw, lathe, portable router, and multiple head moulder. Shows the method of setting up each machine and safety precautions to be observed.

Cutting with Carbide Tools. Part I: Single Point *(19 min., sd., b&w, 16 mm., Order No. OE 244, $33.75, USOE)* How to machine a steel forging on an engine lathe, using a single-point carbide tool.

Cutting with Carbide Tools. Part II: Milling Cutters *(15 min., sd., b&w, 16 mm., Order No. OE 245, $27.00, USOE)* How to face-mill a steel forging with a carbide milling cutter.

Grinding Multiple-Point Carbide Tools *(20 min., sd., b&w, 16 mm., Order No. OE 243, $35.25, USOE)* Shows how to resharpen by grinding a dull carbide milling cutter; grind individual teeth offhand; circle-grind; surface-grind; and finish surfaces and edges by honing.

Grinding Single-Point Carbide Tools *(26 min., sd., b&w, 16 mm., Order No. OE 242, $45.50, USOE)* Shows how to semi-finish and finish-grind a dull tool; rough-grind a chipped or broken tip; grind a newly brazed tool; and grind a chip breaker.

CONSTRUCTION

AASHO Road Test: Construction and Materials *(27 min., sd., color, 16 mm., 1962, $91.25, FHA)* Illustrates the methods and follows the construction of the $27 million AASHO Road Test. Records the quality and control features that were built into each tangent of rigid and flexible pavement and explains the objectives of the research program.

AASHO Road Test: Pavement Research *(37 min., sd., color, 16 mm., 1962, $124.00, FHA)* Covers the objectives, methods, and principal results of the AASHO Road Test, showing how the pavement loops were tested under specific loads at known speeds, how the roads stood up to the tests, and the method used to measure serviceability.

AASHO Road Test: The Road to Better Roads *(14 min., sd., color, 16 mm., 1963, $48.50, FHA)* Explains, in lay terms, the kind of research done in highway construction, showing the variety of programs involved. Features the construction and operation of the AASHO Road Test, and the accumulation and processing of data.

Advance Base Waterfront Construction: Timber Piers *(18 min., sd., b&w, 16 mm., Order No. MN 7488-a, $32.00, USN)* Demonstrates the construction of a timber pier including the planning, methods, tools, and equipment which are required.

The Beauty and the Grandeur *(13 1/2 min., sd., color, 16 mm., 1965, $47.00, FHA)* "Through the co-operation of the Federal and State Governments, and with the interested assistance of individuals, industry and civil organizations, we can make our highways and the surrounding country more enjoyable for all . . . and in building a greater society we will be building an America that is not only strong . . . an America that is not only free . . . but an America that is beautiful." So concludes this film that describes the highway beautification program underway throughout the nation.

Bonded Thin Concrete Resurfacing *(14 min., sd., b&w, 16 mm., Order No. TF 1-5158, $25.50, USAF)* Describes a new method of resurfacing runways, including cleaning the runway of debris, oil, and grease; thoroughly wetting down the runway; using foaming muriatic acid to provide a strong bond between old and new concrete; mixing and testing aggregate; locating forms; spreading special bonding mortar; and locating new joints over old.

Carpentry—Part II—Chopping and Driving Tools *(15 min., sd., b&w, 16 mm., Order No. TF-5-3549, $27.00, USA)* Teaches the use, capabilities, care and maintenance, and safety measures pertaining to the carpentry hand and power tools used for chopping and driving.

Carpentry—Part I—Measuring, Marking and Leveling Tools *(20 min., sd., b&w, 16 mm., 1965, Order No. TF-5-3548, $35.25, USA)* Teaches the use, capabilities, and care and maintenance of the carpentry hand tools commonly used for measuring, marking, and leveling.

Carpentry—Part IV—Planing and Chiseling Tools *(11 min., sd., b&w, 16 mm., 1965, Order No. TF-5-3551, $19.25, USA)* Features and use of bench plane and framing chisel and demonstration of cleaning, sharpening, smoothing, oiling and proper storage are shown.

Carpentry—Part III—Sawing and Boring Tools *(34 min., sd., b&w 16 mm., 1965, Order No. TF-5-3550, $58.75, USA)* Teaches use, capabilities, care and maintenance, and safety measures pertaining to the hand and power tools commonly used in carpentry for sawing and boring.

Dual-Drum Paver Productivity *(30 min., sd., color, 16 mm., 1960, $101.00, FHA)* Action scenes from paver operations illustrate how and to what extent operating delays affect paver productivity on the jobs where paver production rates ranged from low on some to outstanding on others.

Foundations and Concrete *(26 min., sd., b&w, 16 mm., Order No. MN 6719-a, $45.50, USN)* Presents a brief overview of building foundations, usually made of concrete; and mentions variables which determine type of foundation to be used.

Framing: Floor Joists and Walls *(25 min., sd., b&w, 16 mm., Order No. MN 6719-b, $43.75, USN)* Illustrates procedures for constructing walls, floors, doors, and windows of a two-story building.

Framing: Hip and Valley Rafters *(25 min., sd., b&w, 16 mm., Order No. MN 6719-d, $43.75, USN)* Shows how to cut, measure, and fit hip and valley rafters, and compares them with regular type rafters.

Framing: Rafter Principles and Common Rafters *(15 min., sd., b&w, 16 mm., Order No. MN 6719-c, $27.00, USN)* Illustrates laying out and cutting of rafters.

Fundamentals of Stair Layout *(11 min., sd., b&w, 16 mm., Order No. MN 6719-f, $19.25, USN)* Covers the measuring, fitting, and installing of stairways.

Highway Bridge Research *(18 1/2 min., sd., color, 16 mm., 1964, $63.25, FHA)* Shows methods used in conducting strain research on steel and reinforced concrete bridges. Details installation of gauges, wiring, and instrumentation; shows operation; explains equipment and gives results.

Highway Soil Engineering *(110 min., sd., color, 16 mm., 1950, $334.75, FHA)* Illustrates methods employed for surveying and sampling in the field, and testing in the laboratory the subgrade soils encountered in highway construction. The tests are those used by Public Roads and many State highway departments in accordance with standards adopted by the American Association of State Highway Officials.

Interior and Exterior Trim *(12 min., sd., b&w, 16 mm., Order No. MN 6719-e, $22.25, USN)* Covers the installation of doors and windows and the finishing trim around them.

Introduction to Highway Hydraulics *(21 min., sd., color, 16 mm., 1960, $71.50, FHA)* Produced in co-operation with Colorado State University, this film illustrates some fundamental principles of hydraulics of open channel flow. The principles are illustrated by hydraulic models in the laboratory and correlated with field highway installations where possible.

License Plate Traffic Survey *(12 min., sd., color, 16 mm., 1968, $42.00, FHA)* This film shows a method of conducting a traffic survey to obtain origination and destination information by the use of motion picture photography. It shows how the photographic equipment should be set up for recording license plates, how this information is transferred for electronic data processing and how qualified results are obtained by means of a rapid follow-up.

Lost Mixing Time on Dual-Drum Paver *(30 min., sd., color, 16 mm., 1959, $101.00, FHA)* Highlights the importance of the simultaneous mixing interval in meeting mixing time specifications with dual-drum pavers. Shows some trouble spots and the significance of proper adjustments to the batchmeter.

Lost Production in Highway Construction *(30 min., sd., color, 16 mm., 1957, $101.00, FHA)* The film examines minor delays that affect production rates of key units of highway construction equipment, including power shovels, scrapers, hot-mix bituminous plants, and concrete paver.

Mudjacking Concrete Pavement *(11 min., sd., b&w, 16 mm., 1960, Order No. TF 1-5356, $19.25, USAF)* Presents procedures for leveling concrete slabs with hydraulic pressure. Includes drilling, mixing special mortar, pumping mortar into cavities and watching pressure limitations. Describes tools and equipment used in the operation.

Operation Blue Jay *(28 min., sd., b&w, 16 mm., Order No. MF 45-7947, $48.75, USA)* Records and describes Operation Blue Jay, the construction of a United States air base at Thule on the northwest coast of Greenland.

Power Shovel Productivity *(30 min., sd., color, 16 mm., 1958, $101.00 FHA)* Based on extensive studies conducted by the Federal Highways Administration, this film highlights the job conditions that determine the yardage output of power shovels on highway grading work, and demonstrates how production is affected by the speed of the dipper cycle, size of dipper load, and frequency and duration of minor delays.

Precast Concrete Bridge *(18 min., sd., color, 16 mm., 1955, $61.75, FHA)* Uses construction scenes and animated drawings to show casting of beams, deck slabs, and curb sections, driving of piles, construction of bent caps, placement of pre-cast units, and final operations in completing a three span structure.

Preparing Old Buildings for Wiring *(21 min., sd., b&w, 16 mm., Order No. OE 378, $37.00, USOE)* How to plan the wiring paths, visualize the obstructions, and then prepare the paths for the wiring runs.

Public Works and Public Utilities: Control of Corrosion by Cathode Protection; Buried Metal Structures *(19 min., sd., color, 16 mm., Order No. MN 8131-e, $65.00, USN)* Discusses the theory of electrochemical corrosion on subsurface metal structures such as pipelines and tanks. Shows methods of determining the need for installing cathodic protective systems. Demonstrates installation, adjustments, and operational inspections required for the galvanic anode system and the impressed current system.

Public Works and Public Utilities; Painting Structures Ashore *(20 min., sd., color, 16 mm., Order No. MN 8131-f, $68.25, USN)* Shows how to apply paint by brush, roller, and spray; explains how to store paint; and discusses in detail how various surfaces, both new and painted wood and metal, are prepared for painting.

Right-of-Way for Highways *(26 min., sd., color, 16 mm., 1961, $88.00, FHA)* Shows how a State highway department studies, evaluates, and selects the route for a new highway; the various steps in the appraisal of a property needed for right-of-way; and the negotiation for purchase of the property. Produced in cooperation with the States of Iowa, Minnesota, Missouri, and Nebraska. Can be used for orientation of new highway personnel, for introductory training in right-of-way work, at public hearings, and for public information generally.

Sand Drains *(24 min., sd., color, 16 mm., $81.50, FHA)* Explains the sand drain method of consolidating swampy areas for the construction of highways. Through the use of animation and scenes of an actual project, the sequence of preparing the site, driving the sand drains, placing the control devices and overload, final preparation of the roadway, and paving are shown. This film is of particular interest to the engineering and construction audience.

Skid Correlation Study *(14 min., sd., color, 16 mm., 1963, $48.50, FHA)* Compares various techniques used in testing the coefficients of friction on five specially constructed pavements at Tappahannock, Va. Study was for the purpose of standardizing techniques and equipment used by highway departments and research organizations.

Spur Dikes *(14 min., sd., color, 16 mm., 1965, $48.50, FHA)* Shows the theory, laboratory research, and the practical application of spur dikes to control scour at bridge abutments in flood conditions, resulting from the work of Public Roads and several States to establish a standard method of reducing damage and cost of maintenance at bridge locations.

FOUNDRY

Charging and Operating a Cupola *(14 min., sd., b&w, 16 mm., Order No. OE 437, $25.50, USOE)* Shows the essential parts of the cupola; explains the steps to be followed in firing, charging, and operating a cupola; and describes the cycle of operations involved in the melting process.

Making a Simple Core *(15 min., sd., b&w, 16 mm., Order No. OE 424, $27.00, USOE)* Demonstrates how to prepare sand for core-making; make a small cylindrical core in either one or two pieces; assemble a two-piece core; locate a vertical core in a mold to provide necessary venting. Shows how core gases escape when a mold is poured.

Molding a Horizontal Cored Part *(22 min., sd., b&w, 16 mm., Order No. OE 431, $38.50, USOE)* Explains the use of a horizontal core, a split pattern, chaplets, and chaplet supports. Shows how to gate a mold for rapid pouring of a thin casting; and how to clean a casting.

Molding a Valve Body *(26 min., sd., b&w, 16 mm., Order No. OE 430, $45.50, USOE)* Explains the use of a split pattern and multi-part dry sand core. Shows how to gate a mold for rapid, uniform distribution of clean metal; locate a core and seal the core prints.

Molding on a Jolt Roll-Over Pattern Draw Machine *(23 min., sd., b&w, 16 mm., Order No. OE 434, $40.50, USOE)* Explains the principles of the jolt roll-over pattern draw machine; how to fill the drag and jolt it; draw the pattern; set the drag and cope pattern plates; fill the cope and jolt it; and finish and close the mold.

Molding on a Jolt Squeeze Machine *(10 min., sd., b&w, 16 mm., Order No. OE 433, $17.50, USOE)* Explains the principles of the jolt squeeze molding machine; how to roll the mold; fill the cope and apply pressboard; squeeze the mold; draw the pattern, finish, and close the mold.

Molding Part Having a Vertical Core *(19 min., sd., b&w, 16 mm., Order No. OE 425, $33.75, USOE)* Shows how to mold a gate and riser; make a pouring basin; vent a mold to permit the escape of core gasses; and locate a vertical core in a mold.

Molding Part with Deep Green Sand Core *(25 min., sd., b&w, 16 mm., Order No. OE 429, $43.75, USOE)* Tells why to use a follow board with a thin box-like pattern. Shows how to reinforce a green sand core with nails; locate sprue and watch-up pins; use gaggers; and ram and vent a green sand core.

Molding with a Gated Pattern *(11 min., sd., b&w, 16 mm., Order No. OE 427, $19.25, USOE)* Explains what a gated pattern is and why it is used. Shows how a match or follow board may simplify making a parting; how facing sand is prepared; and how and why some patterns are rapped through the cope.

Molding with a Loose Pattern *(21 min., sd., b&w, 16 mm., Order No. OE 423, $37.00, USOE)* Explains how molding sand is prepared. Demonstrates how to face a pattern; ram and vent a mold; roll a drag; cut a sprue, runner, rise, and gates; and swab, rap, and draw a pattern. Shows, by animation, what takes place inside a mold during pouring.

Molding with a Loose Pattern: Floor *(24 min., sd., b&w, 16 mm., Order No. OE 428, $42.25, USOE)* Explains the distinction between bench molding and floor molding. Shows how to face a deep pattern; ram a drag and walk it off; clamp a mold; locate sprues and risers; and tuck the crossbars of a large cope.

Molding with a Split Pattern *(19 min., sd., b&w, 16 mm., Order No. OE 426, $33.75, USOE)* Explains how split patterns aid in the more efficient molding of some casting and demonstrates how ramming affects the permeability of sand in a mold; how to reinforce a mold with nails; and how to patch a mold.

Molding with a Three-Part Flask *(35 min., sd., b&w, 16 mm., Order No. OE 432, $60.25, USOE)* Explains the use of a deep follow board; techniques of facing, ramming, and venting a deep green sand core; how to use a cheek in a three-part flask; and the purpose and method of step-gating.

Preparing a Cupola for Charging *(21 min., sd., b&w, 16 mm., Order No. OE 436, $37.00, USOE)* How to recognize the end of a heat; procedures for dropping bottom and for preparing a cupola for its next heat.

HANDTOOLS

An Introduction to Hand Tools—Part I *(11 min., sd., b&w, 16 mm., Order No. MN 7831-a, $19.25, USN)* Discusses the general principles governing the use of hand tools in the Navy; choosing the right tool for the job; using the tool correctly; using it safely; and keeping the tool in good condition.

Bars, Punches, and Drifts *(15 min., sd., b&w, 16 mm., Order No. TF 9-2030, $27.00, USA)* Explains the specific purposes, correct uses, and common misuses of bars, punches and drifts.

Basic Layout Tools—Part II *(7 min., sd., b&w, 16 mm., Order No. MN 7831-b, $12.50, USN)* Stresses the care and accurate use of metalworking layout tools on template paper and sheet metal.

Chisels *(12 min., sd., b&w, 16 mm., Order No. TF 9-2028, $22.25, USA)* Shows various types of cold chisels, and demonstrates proper techniques and safety precautions to be observed in using them.

Files and Filing—Part IV *(5 min., sd., b&w, 16 mm., Order No. MN 7831-d, $9.25, USN)* Shows a variety of metal-working files according to shape and tooth-pattern, and explains the care and use of files.

Hacksaws—Part III *(5 min., sd., b&w, 16 mm., Order No. MN 7831-c, $9.25, USN)* Explains the types of hacksaw blades in common use, and shows correct practice by close-ups of the cutting action of saw teeth in a variety of stock.

Hacksaws *(18 min., sd., b&w, 16 mm., Order No. TF 9-2031, $32.00, USA)* Shows various types of hacksaw frames and explains the proper and improper uses of each type.

Hammers *(11 min., sd., b&w, 16 mm., Order No. TF 9-2029, $19.25, USA)* Explains the proper care and use of machinist's ball, straight and cross peen hammers, sledge hammer, and a carpenter's claw hammer.

The Man with the Torque Wrench *(10 min., sd., b&w, 16 mm., Order No. TF 1-5214 $17.50, USAF)* Demonstrates proper use of torquing equipment, emphasizes the importance of torquing and the serious consequences that may result from improper torquing, and shows different types of torque wrenches used by the Air Force.

Metal Cutting Chisels—Part VI *(5 min., sd., b&w, 16 mm., Order No. MN 7831-f, $9.25, USN)* Describes the correct uses of the cold chisel, cape chisel, diamond point, and half-round chisel, and explains their cutting action and how they are sharpened.

Pliers and Screw Drivers *(15 min., sd., b&w, 16 mm., Order No. TF 9-2027, $27.00, USA)* Demonstrates the proper use of pliers and screw drivers and safety precautions to be observed in their use.

Threading Taps and Dies—Part VII *(15 min., sd., b&w, 16 mm., Order No. MN 7831-g, $27.00, USN)* Shows sequences and close-ups of the operations involved in tapping and threading as the worker views them in performance of the task; explains the uses of taper, plug and bottoming taps; and shows die adjustments for obtaining the desired fit of threads to tapped holes.

Twist Drills—Part V *(7 min., sd., b&w, 16 mm., Order No. MN 7831-e, $12.50, USN)* Explains the size designation of twist drills, their cutting action, and how they are used and sharpened.

Wrenches *(19 min., sd., b&w, 16 mm., Order No. TF 9-2026, $33.75, USA)* Explains the uses and advantages of various wrenches, and shows the damage which may result from incorrect and dangerous practices in using them.

HYDROGRAPHIC

Establishing Primary Survey Control Points *(20 min., sd., color, 16 mm., Order No. MN 6755-a, $68.25, USN)* Describes the instruments, methods, and signals required to establish primary geodetic control including astronomical position, azimuth, base line, triangulation, and relevant operations.

History of the U.S. Navy Hydrographic Office *(16 min., sd., color, 16 mm., Order No. FN 8300, $55.00, USN)* Explains the contributions made by the Hydrographic Office to the Navy and to the U.S. and foreign merchant marines, and describes some of its more important activities and accomplishments from 1830 to the present time.

Hydrography for Charting: Position Fixing *(12 min., sd., color, 16 mm., Order No. MN 7337-a, $42.00, USN)* Describes the theory and practice of determining a vessel's position by three methods of hydrographic surveying—three point fix, radar ranging, and hyperbolic radio intereference grids.

Hydrography for Charting: Sounding and Dragging *(12 min., sd., color, 16 mm., Order No. MN 7337-b, $42.00, USN)* Describes the methods of determining the depth of water and the instrumentation required. Also explains the equipment and techniques employed in wire dragging to guarantee obstruction-free depth of water.

Hydrographic Survey Operations *(17 min., sd., color, 16 mm., 1966, Order No. MN-10193 A, $58.50, USN)* Geodesy and planning updated methods of obtaining geodetic control as the primary step in conducting a hydrographic survey.

Hydrographic Survey Operations—Hydrographic Control and Sounding Operations *(17 min., sd., color, 16 mm., 1966, Order No. MN 10193-C, $58.50, USN)* Updated methods of conducting an off-shore hydrographic survey.

Secondary Survey, Control Points, and Hydrographic Developments *(18 min., sd., color, 16 mm., Order No. MN 6755-b, $61.75, USN)* Describes secondary signals, building, sounding and wire dragging operations, tide and current observations, photogrammetric compilation, magnetic observations, and other miscellaneous survey work.

MAPS

Basic Map Reading—Part IV—Direction, Orientation, and Location with a Compass *(30 min., sd., color, 16 mm., 1967, Order No. TF 5-3721, $101.00, USA)* Explains how to orient a military map and find direction and location with a compass.

Basic Map Reading—Part III—Direction, Orientation, and Location Without a Compass *(30 min., sd., color, 16 mm., 1967, Order No. TF 5-3720, $101.00, USA)* Explains the orientation of a map, and finding direction and location without the use of a compass.

Basic Map Reading—Part II—Grid, Distance and Elevation *(29 min., sd., color, 16 mm., 1967, Order No. TF 5-3719, $97.75, USA)* Explains the use of the military grid in determining locations or reference points on a military map, the measurement of ground distance on the map, and the use of contour lines to depict elevation and topographic features.

Basic Map Reading—Part I—Map Symbols *(20 min., sd., color, 16 mm., 1967, Order No. TF 5-3718, $68.25, USA)* A preface to basic map reading, defines the importance of the military map to the soldier and basic symbols found on maps.

Basic Map Reading—Part V—Photos and Photomaps *(31 min., sd., b&w, 16 mm., 1967, Order No. TF 5-3722, $53.50, USA)* Teaches the soldier how to use an aerial photograph or photomap as a supplement to or substitute for the military map.

MEASUREMENT

The Bevel Protractor *(15 min., sd., b&w, 16 mm., Order No. OE 50, $27.00, USOE)* Principles of the vernier bevel protractor; how to set and read the bevel protractor, and use the protractor to lay out angular work and to check angles.

Fixed Gages *(17 min., sd., b&w, 16 mm., Order No. OE 3, $30.50, USOE)* Types and uses of gages for precision measurement snap, ring, plug, taper plug, taper ring, flush pin, and screw plug gages.

Gage Blocks and Accessories *(23 min., sd., b&w, 16 mm., Order No. OE 246, $40.50, USOE)* Why accessories are used with gage blocks; how to inspect a plug gage, an adjustable snap gage, a profile gage, a ring gage, and a screw-thread pitch; and how to build a height gage and scriber.

Height Gages and Test Indicators *(12 min., sd., b&w, 16 mm., Order No. OE 5, $22.25, USOE)* Presents the principles and parts of the vernier height gage; shows how to use the gage to lay out holes and to set test indicators; and how to use test indicators to check the accuracy of machined surfaces.

The Micrometer *(15 min., sd., b&w, 16 mm., Order No. OE 2, $27.00, USOE)* Various types of micrometers; how to use a micrometer, read the barrel and thimble scales, check the accuracy of readings, and take care of the instrument.

Precision Gage Blocks *(18 min., sd., b&w, 16 mm., Order No. OE 49, $32.00, USOE)* Shows various uses of gage blocks in setting inspection gages; how to calculate gage blocks, and clean and assemble the blocks.

The Steel Rule *(14 min., sd., b&w, 16 mm., Order No. OE 1, $25.50, USOE)* How to read steel rules; use flexible hook and rule-type gages; lay out holes with a combination square and scribe them with a divider; and use inside and outside calipers to transfer dimensions to and from steel rules.

Verniers *(19 min., sd., b&w, 16 mm., Order No. OE 4, $33.75, USOE)* Principle of the vernier scale and its application to a micrometer and to inside and outside calipers; how to use and read vernier micrometers and vernier calipers.

METALLURGY

Elements of Hardening *(15 min., sd., b&w, 16 mm., Order No. OE 170, $27.00, USOE)* How steel is quench-hardened; how the structure and hardness of steels with different carbon content change at progressive quench-hardening stages; how the lower and upper critical temperatures of steel are determined; and how an iron-carbon diagram is constructed and what it shows.

Elements of Surface Hardening *(14 min., sd., b&w, 16 mm., Order No. OE 172, $25.50, USOE)* Shows how steel is packed and gas carburized; how a thin, hard case is obtained by cyaniding; how nitriding is used to obtain a very hard case; and how steel is flame and induction hardened.

Elements of Tempering, Normalizing and Annealing *(15 min., sd., b&w, 16 mm., Order No. OE 171, $27.00, USOE)* How steel is tempered; how the structure, toughness, and hardness of plain carbon steel change at progressive tempering stages; how steel is normalized and annealed, and the results of normalizing and annealing.

Hardness Testing: Rockwell *(18 min., sd., b&w, 16 mm., Order No. OE 149, $32.00, USOE)* Need for hardness testing; how to set up the Rockwell hardness tester; select and seat the penetrator; select and mount the anvil; adjust the timing of the machine; and test flat and curved surfaces.

Heat Treatment of Aluminum, Film I *(19 min., sd., b&w, 16 mm., Order No. OE 344, $33.75, USOE)* Purpose of heat treatment; microstructure changes during heat treatment; procedure of heat treatment; aging or precipitation hardening; effects of heat treatment on the physical properties of aluminum.

Heat Treatment of Aluminum, Film II *(24 min., sd., b&w, 16 mm., Order No. OE 345, $42.25, USOE)* Nature of cold-working operations; microstructure changes during cold working and during annealing; cold working and annealing operations.

Powder Metallurgy, Part I: Principles and Uses *(19 min., sd., b&w, 16 mm., Order No. OE 346, $33.75, USOE)* Principles of powder metallurgy powder, pressure, heat; major industrial applications of powder metallurgy; laboratory process of combining silver and nickel powders.

Powder Metallurgy, Part II: Manufacture of Porous Bronze Bearings *(15 min., sd., b&w, 16 mm., Order No. OE 347, $27.00, USOE)* Manufacturing process by which metal powders are fabricated into porous bronze bearings and impregnated with oil.

OPTICS

Beveling, Grooving, and Rounding *(27 min., sd., b&w, 16 mm., Order No. MN 2449-g, $47.00, USN)* Illustrates techniques involved in grooving, beveling and rounding both flat and curved surfaces; demonstrates importance of beveling the edges of all optical surfaces to prevent chipping, adaptation of surface grinder for grooving, and two common types of rounding machines.

Centering, Edge Grinding, and Beveling *(27 min., sd., b&w, 16 mm., Order No. OE 185, $47.00, USOE)* How to center lenses by collimator; set up lenses for edge and bevel-grinding in single spindle or two spindle machine; and edge and bevel-grind lenses.

Fine Grinding *(15 min., sd., b&w, 16 mm., Order No. OE 183, $27.00, USOE)* How to set up lenses in multiple spindle machine; adjust grinding machine for grinding concave or convex lenses; and wash and inspect lenses after grinding.

Fine Grinding and Polishing *(32 min., sd., b&w, 16 mm., Order No. MN 2449-k, $55.25, USN)* Illustrates techniques of fine grinding and polishing flat surfaces, including setting the molds, blocking and deblocking, and scoring lathes to achieve different results in the finished product.

Introduction to Optics *(17 min., sd., b&w, 16 mm., Order No. MN 2449-a, $30.50, USN)* Uses animation and practical examples to illustrate the principles of light waves and rays; to show how light is refracted and reflected, and to explain image formation in relation to concave and convex lenses. Studies these principles as applied to optical instruments.

Optical Inspection Methods, Part I *(26 min., sd., b&w, 16 mm., Order No. MN 2449-m, $45.50, USN)* Explains visual methods of inspection, the use of gages, the necessity for checking the gages, and the theory and use of Newton's rings as an inspection method.

Optical Inspection Methods, Part II *(19 min., sd., b&w, 16 mm., Order No. MN 2449-n, $33.75, USN)* Explains methods of inspection of prisms and spherical lenses, and illustrates the use of the spectrometer.

Pitch Buttoning and Blocking *(30 min., sd., b&w, 16 mm., Order No. OE 182, $52.00, USOE)* Demonstrates blocking large convex lenses, blocking with pagoda tool, use of ring button, buttoning and blocking with pitch points, and pitch buttoning and blocking very small lenses.

Polishing *(28 min., sd., b&w, 16 mm., Order No. OE 184, $48.75, USOE)* How to make concave or convex polishing shell; trim polishing shell to size and cut breathers; set up and use polishing machine; make Newton's ring check with test glass; and correct for hollow condition and high condition.

Rough Grinding *(26 min., sd., b&w, 16 mm., Order No. OE 180, $45.50, USOE)* Explains three methods of rough grinding lenses; by hand, pin-bar, and mechanical curvature generator; shows in detail how to hand grind a concave lens.

Rough Grinding (Flat Surfaces) *(27 min., sd., b&w, 16 mm., Order No. MN 2449-e, $47.00, USN)* Demonstrates procedures for grinding a flat optical surface by the hand method. Covers blocking of prisms to planoplate, procedures for hand grinding, cleaning of mill, inspection, measurement, deblocking, grinding of large pieces of optical glass, and edge grinding.

Rough Grinding by Pin-Bar *(19 min., sd., b&w, 16 mm., Order No. OE 181, $33.75, USOE)* How to use job card; select and adjust grinding tool; use abrasive; perform the grinding operation; clean the grinding tool; and correct worn grinding tools.

Rough Grinding with a Curvature Generator *(15 min., sd., b&w, 16 mm., Order No. MN 2449-d, $27.00, USN)* Demonstrates rough grinding of spherical surfaces by the curvature generator process; illustrates theory, function, and operation of the curve generating diamond grinding wheel.

Rough Grinding with Vertical Surface Grinder—Flat Surfaces *(26 min., sd., b&w, 16 mm., Order No. MN 2449-F, $45.50, USN)* Machine grinding flat surfaces, and methods of blocking to grind all surfaces with a minimum of changes in position.

PATTERNMAKING

Designing a Pattern for a Water-Cooled Motor Block *(15 min., sd., b&w, 16 mm., Order No. OE 337, $27.00, USOE)* How a patternmaker studies a drawing for a single-cylinder water-cooled motor block; visualizes the shape of the casting; plans the general shape of the pattern; checks on core support; and plans the core boxes.

Designing Core Boxes for a Water-Cooled Motor Block *(12 min., sd., b&w, 16 mm., Order No. OE 338, $22.25, USOE)* How a patternmaker visualizes the water jacket, port cores, and the core in a mold then designs the ram-up core and set-up core.

Making a Core Box for a Flanged Pipe Elbow *(21 min., sd., b&w, 16 mm., Order No. OE 330, $37.00, USOE)* How to use a pattern layout in making a core box; design a core box; lay out a curved core piece; turn the core cavity in a curved piece; assemble a core box having a curved core piece; and finish the core box.

Making a Core Box for a Machine Base *(12 min., sd., b&w, 16 mm., Order No. OE 334, $22.25, USOE)* How a patternmaker, working from a casting, goes about the job of designing a core box; examines the casting; visualizes the problem; makes the layout; and constructs the pattern and core boxes.

Making a Core Box for a Tail Print *(18 min., sd., b&w, 16 mm., Order No. OE 350, $32.00, USOE)* How to use dry sand cores in molding holes in castings; use pattern layout to make a core box; distinguish between core and core print; lay out the core print; add the core; and determine parting line of a core box.

Making a Matchboard Pattern *(21 min., sd., b&w, 16 mm., Order No. OE 328, $37.00, USOE)* How to sketch a matchboard; make the patterns; prepare the gates to connect patterns; prepare the runner for the cope side; assemble the matchboard; turn a draft taper on a hole; and attach flask fixtures.

Making a One-Piece Flat Pattern *(22 min., sd., b&w, 16 mm., Order No. OE 321, $38.50, USOE)* How to identify the parts of the molding flask; use shrinkage rules; prepare a pattern layout; prepare the pieces that make up a pattern; make identical castings; and finish the patterns.

Making a Pattern for a Flanged Pipe Elbow *(18 min., sd., b&w, 16 mm., Order No. OE 327, $32.00, USOE)* How to make a right-angle layout; turn out separate core prints; make split flanges; set flanges into core prints; assemble half the pattern on the layout; dowel an elbow pattern; apply leather fillets.

Making a Pattern for a Machine Molded Steel Globe and Angle Valve *(14 min., sd., b&w, 16 mm., Order No. OE 340, $25.50, USOE)* How machine molding affects pattern design; how a patternmaker designs and constructs a pattern for a valve body, including the gating system.

Making a Pattern for a Three-Part Mold *(20 min., sd., b&w, 16 mm., Order No. OE 326, $35.25, USOE)* Reasons for the three-part pattern; how to make the layout; segment the body or center section; eliminate end grain on large flanges; and turn large work end of the lathe.

Making a Pattern Requiring Box Construction *(17 min., sd., b&w, 16 mm., Order No. OE 333, $30.50, USOE)* How a patternmaker approaches the task of making a pattern for a duplicate of a casting; examines and measures the casting; visualizes the problem; and constructs the pattern.

Making a Pattern Requiring a Cover Core *(14 min., sd., b&w, 16 mm., Order No. OE 332, $25.50, USOE)* How molding and coring problems lead to the choice of a cover core; how a patternmaker designs a pattern (and core boxes) requiring a cover core; designs a cover print; and constructs a pattern for a cover pulley.

Making a Pattern Requiring Segmental Construction *(13 min., sd., b&w, 16 mm., Order No. OE 335, $23.75, USOE)* Why segmental construction is a preferred method for some patterns; how a patternmaker designs and constructs a pattern for a gear blank which requires segmental construction.

Making a Pattern Using a Green and a Dry Sand Core *(14 min., sd., b&w, 16 mm., Order No. OE 331, $25.50, USOE)* How a green sand core is molded; how a patternmaker determines when to allow for a green sand core, designs a pattern allowing for a green sand core, and visualizes and constructs a particular pattern.

Making a Pattern with a Horizontal Core *(14 min., sd., b&w, 16 mm., Order No. OE 323, $25.50, USOE)* When to use a horizontal core; how to allow for shrinkage in bronze; lay out fillets; make horizontal core prints; true up a parting plane; dowel a pattern with a horizontal core; and turn crusher strips.

Making a Pattern with a Tail Print *(19 min., sd., b&w, 16 mm., Order No. OE 324, $33.75, USOE)* How to mold castings with holes; make a rough sketch for visualizing the actual castings; use dry sand cores; form core cavities by using tail prints; and make a layout including tail prints.

Making a Pattern with a Vertical Core *(14 min., sd., b&w, 16 mm., Order No. OE 322, $25.50, USOE)* Importance of making a preliminary sketch; how to make the layout; allow for shrinkage; allow for finish; lay out the core prints; use the layout; assemble the pattern; allow for draft; and shellac the pattern.

Making a Segmented Pattern *(22 min., sd., b&w, 16 mm., Order No. OE 325, $38.50, USOE)* How to plan segmentation of pattern; lay out segments and web; assemble the pattern; prepare a recessed hub; and finish the pattern.

Making Pattern, Core Boxes, and Assembling Cores for a Water-Cooled Motor Block *(15 min., sd., b&w, 16 mm., Order No. OE 339, $27.00, USOE)* How a patternmaker constructs the pattern and master core boxes; checks the working core boxes; pastes up and assembles test cores.

Redesigning a Pattern for Production Purposes *(11 min., sd., b&w, 16 mm., Order No. OE 336, $19.25, USOE))* How a pattern originally designed for casting a single piece is redesigned for quantity production.

PHOTOGRAPHY

Air Force Cameras in Action *(14 min., sd., b&w, 16 mm., Order No. SFP 630, $25.50, USAF)* Presents outstanding Air Force events of 1958, including nuclear tests, Projects Manhigh and Farside, space studies, the Lebanon crisis, an Air Force goodwill tour, and successful launchings of a hybrid Thor-Able missile and the Atlas ICBM.

The Basic Camera *(15 min., sd., b&w, 16 mm., Order No. MN 5383, $27.00, USN)* History and construction of the camera; types of cameras, film holders, camera bodies, lenses, shutter adjustments, and screens.

Developing the Negative *(16 min., sd., b&w, 16 mm., Order No. MN 5386, $28.50, USN)* Shows chemistry and procedure in developing still camera film, and explains composition of the developing solution.

Elementary Optics in Photography *(19 min., sd., b&w, 16 mm., Order No. MN 5384, $33.75, USN)* Principles of lighting effects; how light is reflected and refracted by the curvature and thickness of glass.

Fighter Photo, Eyes of the Fleet *(26 min., sd., color, 16 mm., Order No. MN 7893, $88.00, USN)* Portrays a U.S. Navy pilot assigned to duty with a fighter photographic squadron, his training, and combat duties with a squadron operating in Korea.

Film Processor, EH-38—Operation and Maintenance *(22 min., sd., color, 16 mm., 1966, Order No. MN 10302-A, $74.75, USN)* Proper methods to be used in operation, cleaning, and preventive maintenance for the processor.

Film Processor, EH-38—Maintenance *(25 min., sd., color, 16 mm., 1966, Order No. MN 10302-B, $84.75, USN)* Maintenance procedures for the Kodak Versamat Processor EH-38. Proper maintanance methods, parts removal procedures and lubrication points.

Film Processor, EH-38—Quality Control *(18 min., sd., color, 16 mm., 1966, Order No. MN 10302-C, $61.75, USN)* To familiarize the operator with quality control, all necessary steps, and proper methods.

Navy Photography in Intelligence *(17 min., sd., b&w, 16 mm., Order No. MN 5348-d, $30.50, USN)* Shows how aerial mosaics, stills, and other photographic reports yield vital information concerning all phases of enemy positions and war potential.

Navy Photography in Science *(28 min., sd., color, 16 mm., Order No. MN 5348-c, $94.50, USN)* Shows uses of photography in scientific research—time-lapse, high-speed, slow-motion, stroboscopic, microscopic, and under-water techniques. Includes scenes of the moon in motion, blood circulation in the brain, and the earth from 101 miles altitude.

Photography in the USAF—Scientific Photography at the Air Force Flight Test Center *(18 min., sd., color, 16 mm., 1963, Order No. SFP 1162, $61.75, USAF)* Examines the Air Force Flight Test Center's photographic support of USAF's progress of space at Edwards Air Force Base.

The Techniques of Army News Photography *(27 min., sd., b&w, 16 mm., Order No. TF 21-3351, $47.00, USA)* Experts in photojournalism field define & illustrate essentials of superior news photography, covering still & motion picture techniques.

PLASTICS

Compression Molding, Part I: Preparing the Charge and Loading the Mold *(11 min., sd., b&w, 16 mm., Order No. OE 468, $19.25, USOE)* How to set up the press; weigh the charge; preheat the charge; clean and lubricate the mold; and load the mold.

Compression Molding, Part II: Molding a Simple Part *(10 min., sd., b&w, 16 mm., Order No. OE 469, $17.50, USOE)* How to close, breathe, and open the mold; prevent pieces from warping; and coordinate steps of the molding cycle.

Damage Control—Plastic Repairs *(20 min., sd., b&w, 16 mm., Order No. MN-9537-C, $35.25, USN)* Safety precautions in applying Epoxy resin patches to ruptured or severed pipes, broken flanges and holes in bulkheads or foundations.

Finishing Molded Parts *(14 min., sd., b&w, 16 mm., Order No. OE 474, $25.50, USOE)* How to trim the gate; drum-sand the cable hole and gate; retap metal inserts; remove flash from contours; and sand, buff, and polish the finished part.

Injection Molding, Part I: Setting Up the Press and Molding a Part *(16 min., sd., b&w, 16 mm., Order No. OE 472, $28.50, USOE)* What happens in the plunger cylinder, heating cylinder, and mold during injection molding; how to set up an injection molding press for a specified job; maintain the operating cycle and prevent damage to the mold and the press.

Injection Molding, Part II: Cleaning and Servicing the Press *(12 min., sd., b&w, 16 mm., Order No. OE 473, $22.25, USOE)* How to disassemble the heating cylinder; clean the cylinder, hopper, and feeder mechanism; give the entire press a routine cleaning; and prepare scrap material for re-use.

Machining Laminated Plastics *(19 min., sd., b&w, 16 mm., Order No. OE 475, $33.75, USOE)* How to machine a typical laminated part; cut the tube stock to length on a circular saw; turn the outside diameters on a lathe; machine inside diameters by boring with a lathe; and finish the machining on a milling machine.

Methods of Processing Plastics Materials *(25 min., sd., b&w, 16 mm., Order No. OE 467, $43.75, USOE)* Fundamentals of the compression, transfer, extrusion, and injection molding methods; finishing of molded parts; fundamentals of lamination; and machining of laminated and other plastics products.

Origin and Synthesis of Plastics Materials *(16 min., sd., b&w, 16 mm., Order No. OE 466, $28.50, USOE)* Organic origin of plastics and the resemblance of synthetic compounds to natural substances; synthesis of plastics from natural substances; forms in which plastics are produced; and typical plastics products.

Reinforced Plastics, Introduction *(20 min., sd., b&w, 16 mm., Order No. MN 8597-a, $35.25, USN)* Explains in general the nature of reinforced plastics and their composition and fabrication.

Reinforced Plastics: Inspection and Quality Control *(20 min., sd., color, 16 mm., Order No. MN 8597-b, $68.25, USN)* Demonstrates inspection procedures, showing examples of various common defects and procedures leading to final acceptance of the finished parts by naval inspectors.

Reinforced Plastics: Repair of Single Skin Failures *(19 min., sd., b&w, 16 mm., Order No. MN 8597-c, $33.75, USN)* Demonstrates methods of repairing single skin reinforced plastic parts, with illustrations of different kinds of damage.

Semi-automatic and Hand Molding of Intricate Parts *(16 min., sd., b&w, 16 mm., Order No. OE 471, $28.50, USOE)* How to mold a part with undercuts; mold a part with complicated shape; and assemble and disassemble a hand mold.

Transfer Molding: Molding a Part with Inserts *(10 min., sd., b&w, 16 mm., Order No. OE 470, $17.50, USOE)* How transfer molding differs from compression molding; how to mold a part by the transfer method; and coordinate the steps of the molding cycles.

REFRIGERATION

Adding or Removing Refrigerant *(17 min., sd., b&w, 16 mm., Order No. OE 441, $30.50, USOE)* How to check a domestic refrigeration system for lack of refrigerant; add refrigerant by weight; add an unmeasured amount of refrigerant; and remove refrigerant.

Adjusting and Checking the Expansion Valve *(21 min., sd., b&w, 16 mm., Order No. OE 444, $37.00, USOE)* Design and operation of the bellows type and the diaphragm type automatic expansion valves; and how to adjust, check, and service the bellows type valve.

Adjusting Commercial Thermostatic Controls *(12 min., sd., b&w, 16 mm., Order No. OE 450, $22.25, USOE)* How to adjust the thermostatic motor control, the thermo two-temperature valve, and the thermo water valve.

Adjusting Pressure Actuated Temperature Control Devices *(15 min., sd., b&w, 16 mm., Order No. OE 449, $27.00, USOE)* Purpose of pressure actuated temperature control devices; how to adjust the pressure actuated motor control; and adjust the metering type and snap-action two-temperature valves.

Adjusting and Repairing the Thermo Expansion Valve *(12 min., sd., b&w, 16 mm., Order No. OE 448, $22.25, USOE)* Theory of multiple refrigeration systems; how to test and adjust the thermo expansion valve; recognize symptoms of trouble in the valve; and service the valve.

Checking and Replacing a Float Valve *(19 min., sd., b&w, 16 mm., Order No. OE 445, $33.75, USOE)* Function of two basic types of float valves—high-side float and low-side float; how to correct troubles in both types; and replace a high-side float.

Checking the Electrical System *(17 min., sd., b&w, 16 mm., Order No. OE 446, $30.50, USOE)* How to check and service an overheated motor in a domestic refrigerator; repair a stalled capacitor motor and an R.I. motor; and repair thermostatic motor controls.

Checking the System; Part I: General Procedure *(17 min., sd., b&w, 16 mm., Order No. OE 438, $30.50, USOE)* How to install gages in a domestic refrigerator; check operating pressures, compressor performance, and temperature range of the cooling unit; and clean the condenser and oil the motor of an open-type refrigeration unit.

Checking the System; Part II: Trouble Shooting *(17 min., sd., b&w, 16 mm., Order No. OE 439, $30.50, USOE)* How to determine causes of several common troubles such as "unit will not run," "no refrigeration, but the unit runs continuously," and "improper refrigeration of food but unit freezes ice cubes."

Locating and Repairing Leaks *(17 min., sd., b&w, 16 mm., Order No. OE 440, $30.50, USOE)* How to test for sulphur dioxide and methyl chloride leaks; use the halide torch to locate freon leaks; and repair several types of leaks.

Making and Repairing Tubing Connections *(18 min., sd., b&w, 16 mm., Order No. OE 452, $32.00, USOE)* How to straighten copper tubing; work, cut, and dress copper tubing; make a flare for various sizes of tubing; and sweat in a connector to cover a break.

Mechanical Refrigeration: How It Works *(22 min., sd., b&w, 16 mm., Order No. MN 2246-a, $38.50, USN)* Explains the function, theory, and operation of a refrigeration system.

Principles of Refrigeration *(20 min., sd., b&w, 16 mm., Order No. OE 360, $35.25, USOE)* Purpose, nature, and physics of refrigeration; the refrigerant and the refrigeration system; and the two principal types of systems—compression and absorption.

Quieting a Noisy Refrigerator *(16 min., sd., b&w, 16 mm., Order No. OE 447, $28.50, USOE)* How to check and correct noise caused by high head pressure or oil-logged evaporator; compressor noises; motor noises; and noises caused by wear or looseness of parts.

Refrigeration-Evacuating and Charging *(13 min., sd., color, 16 mm., 1964, Order No. TF 5536b, $45.25, USAF)* Demonstrates procedures for removing air and moisture from refrigeration lines and charging the unit with fresh refrigerant. Shows how to attach the manifold guage assembly, evacuate the system and conduct a leak test prior to charging. Cleared for TV.

Refrigeration-Principles of Mechanical Refrigeration *(12 min., sd., color, 16 mm., 1964, Order No. TF 5536a, $42.00, USAF)* Shows application of basic physics of heat transfer in refrigeration units. Explains temperature changes in refrigerant passing through the expansion valve, compressor, condensor and evaporator as it carries heat to the outside air. Cleared for TV.

Removing and Installing a Compressor or Condenser *(17 min., sd., b&w, 16 mm., Order No. OE 442, $30.50, USOE)* How to evacuate and remove a compressor in a domestic refrigerator; evacuate a stuck compressor; install the compressor; and remove and install a condenser.

Removing and Installing a Cooling Unit *(19 min., sd., b&w, 16 mm., Order No. OE 443, $33.75, USOE)* Common cooling unit disorders in a domestic refrigerator; how to evacuate valved evaporators; remove an oil-logged evaporator; install the evaporator; and install a direct expansion cooling unit.

Servicing Water-Cooled Condensers *(12 min., sd., b&w, 16 mm., Order No. OE 451, $22.25, USOE)* Theory of a counter-flow condenser; essential elements of a water-cooled system; and operation of the electric water valve and how to regulate it.

SOLDERING

Hand Soldering *(20 min., sd., b&w, 16 mm., Order No. OE 479, $35.25, USOE)* Theory of soldering; how to prepare soldering irons and torches; clean and prepare the work; fasten joints; solder wire and lug joints; and seal seams.

Making a Wrapped and Soldered Splice *(15 min., sd., b&w, 16 mm., Order No. OE 144, $27.00, USOE)* How to make a ball soldered terminal; prevent the wires from unlaying when cut; fit a cable to a thimble; and make the wire wrap.

The Use Of Soldering Coppers *(8 min., sd., b&w, 16 mm., Order No. MN 7831-i, $14.25, USN)* Describes the techniques of soft soldering in a sequence of operations, including proper selection and tinning of the copper, correct heating, cleaning and flexing the surfaces to be soldered, and the method of transferring sufficient heat from the copper.

TELETYPEWRITER

Mechanical Operation of the Model 28 Teletypewriter: Automatic Typer Selecting Mechanism *(11 min., sd., b&w, 16 mm., Order No. MN 9237-b, $19.25, USN)* Shows the chain of action in the automatic typer of the model 28 teletypewriter (TT-47A/UG) from the signal generator to and through the selecting mechanism that operates the code bars.

Mechanical Operation of the Model 28 Teletypewriter: Function Mechanism *(11 min., sd., b&w, 16 mm., Order No. MN 9237-d, $19.25, USN)* Shows the mechanical chain of action in the function mechanism of the model 28 teletypewriter (TT-47A/UG). Emphasizes the operation of the function clutch as opposed the main shaft clutch.

Mechanical Operation of the Model 28 Teletypewriter: Keyboard Transmitting Mechanism *(13 min., sd., b&w, 16 mm., Order No. MN 9237-a, $23.75, USN)* Shows the mechanical operation of the keyboard transmitting mechanism of the model 28 teletypewriter (TT-37A/UG). Traces the action from the key punched to the signal generator and explains each part in the chain between keyboard and generator.

Mechanical Operation of the Model 28 Teletypewriter: Type Box Positioning Mechanism *(20 min., sd., b&w, 16 mm., Order No. MN 9237-c, $35.25, USN)* Shows by means of close live photography the chain of action of the mechanical levers that position the type box of the model 28 teletypewriter (TT-47A/UG) in the proper position so that the letter or figure key that is punched may be printed.

WATER TREATMENT

Griscom-Russell: How It Works, Part I *(14 min., sd., b&w, 16 mm., Order No. MN 3706-a, $25.50, USN)* Explains by animation the principles of operation of the low-pressure distilling plant (Griscom-Russell). Illustrates the development of a simple effect distilling plant, explaining the parts and their functions.

Griscom-Russell: How It Works, Part II *(19 min., sd., b&w, 16 mm., Order No. MN 3706-b, $33.75, USN)* Explains by animation the parts, construction, and operation of a double effect distilling plant. Portrays a typical distilling plant, tracing by animation the flow of water, steam, vapor, and condensation through the system.

Vapor Compression Distilling Units: Chemical Cleaning *(10 min., sd., b&w, 16 mm., Order No. MN 8264-b, $17.50, USN)* Shows the fittings, hoses, and the tank necessary for the cleaning operation. Demonstrates how to mix the cleaning solution; how to establish the circulation of cleaner through the unit; and how to flush the cleaner from the unit and resume normal operations.

Vapor Compression Distilling Units: How They Work and How to Operate Them *(22 min., sd., b&w, 16 mm., Order No. MN 8264-a, $38.50, USN)* Describes how a vapor compression distilling unit works by considering it as three systems: flow, heat-transfer, and control. Shows by animated diagrams the flow through a unit and what occurs at important points, where the heat comes from and where it transfers in the boiling and condensation process, and the devices that reveal operating conditions and control operation.

Water Purification, Introduction *(10 min., sd., color, 16 mm., Order No. MN 7489-a, $34.00, USN)* Emphasizes the importance of disinfecting water; explains the various sources of water and the steps required to provide a safe water supply; and mentions briefly diatomite filters and distilling equipment.

Water Purification: Diatomite Filter System, Installation, Operation, and Maintenance *(17 min., sd., color, 16 mm., Order No. MN 7489-b, $58.50, USN)* Describes the installation, operation, and maintenance of diatomite filters, including the equipment and the preparation of the chemicals. Also shows the "batch method" of pre-treating raw water for high turbidity using soda ash and alum.

Water Purification: Vapor Compression Distillation *(15 min., sd., color, 16 mm., Order No. MN 7489-c, $51.75, USN)* Shows how fresh water is obtained from sea water, including installation of the distillation unit, the process (by animation) of converting sea water to a distillate, and methods of cleaning the evaporator.

WELDING

The Guided Bend Test *(17 min., sd., b&w, 16 mm., Order No. OE 189, $30.50, USOE)* How to prepare groove weld and fillet weld and fillet weld test specimens for the guided bend test; and make the test. Shows causes of failure in bending.

Inert Gas Shielded Arc Welding Machine: Operation and Maintenance *(28 min., sd., b&w, 16 mm., Order No. TF 9-3135, $48.75, USA)* This film describes the features, operation, and maintenance of metal inert gas and tungsten inert gas shielded arc welding equipment which can be used for welding ferrous and nonferrous metals.

Manual Cutting a Bevel: Freehand *(13 min., sd., b&w, 16mm., Order No. OE 187, $23.75, USOE)* How to select a tip for bevel cutting; clean a tip; adjust oxygen and acetylene pressure for bevel cutting; and cut a bevel with minimum drag.

Manual Cutting a Shape: Freehand *(16 min., sd., b&w, 16 mm., Order No. OE 188, $28.50, USOE)* How to make plywood template for cutting; make a tip guide device, position a template for cutting; use the guide device; and use a circle cutting device.

Manual Cutting to a Line: Freehand *(21 min., sd., b&w, 16 mm., Order No. OE 186, $37.00, USOE)* How to assemble an oxy-acetylene cutting outfit; select the proper cutting tip; adjust oxygen and acetylene delivery pressures; adjust the preheating cutting flames; make a 90 degree freehand cut; and disassemble the cutting outfit.

Oxy-Acetylene Welding: Light Metal *(21 min., sd., b&w, 16 mm., Order No. OE 190, $37.00, USOE)* How to assemble a gas welding outfit; adjust gas pressures; adjust the flame; and make a butt weld and a T weld in light tubing.

Spot Welding *(20 min., sd., b&w, 16 mm., Order No. OE 295, $35.25, USOE)* How to spot weld parts of an access cover; set up the machine; remove and install electrodes; set pressure, current, and time controls; test the setup; and clean the electrode tips.

WOODWORKING

BAND SAW

Sawing a Reverse Curve and a Bevel Reverse Curve *(18 min., sd., b&w, 16 mm., Order No. OE 310, $32.00, USOE)* How to select and lay out stock to avoid waste; reverse curves to contour lines; use the table tilting gage; saw a beveled, reverse curve; prepare a template for a newel post; and saw a newel post having reverse curves.

Sawing with Jig and Changing Band *(20 min., sd., b&w, 16 mm., Order No. OE 309, $35.25, USOE)* How to select the proper band saw blades for the job; adjust saw guides; mark stock and cut to the mark; prepare a jig; and cut discs, using a jig.

JOINTER

Beveling, Stop Chamfering, and Tapering Square Stock *(20 min., sd., b&w, 16 mm., Order No. OE 303, $35.25, USOE)* How to set fence for bevel cutting; adjust the proper amount of cut; cut chamfer; set the infeed and outfeed tables and stop blocks; and cut tapers.

Face Planing Uneven Surfaces *(13 min., sd., 16 mm., Order No. OE 304, $23.75, USOE)* Shows how to determine the condition of boards, correct defects on the jointer, face wide stock with a slight cross grain, make and use a feather board, and face thin stock using a push block.

Jointing Edges and Ends 90 Degrees to Face *(17 min., sd., b&w, 16 mm., Order No. OE 302, $30.50, USOE)* Functions and operation of the jointer; how to identify surfaces of a piece of stock; joint a square edge to size; and joint a piece of glued stock to size.

Jointing an Edge for Gluing: Installing Knives *(21 min., sd., b&w, 16 mm., Order No. OE 305, $37.00, USOE)* How to determine when knives are dull; remove dull knives; install sharp knives on the cutter head and adjust them for proper cutting; straighten crooked stock; and join edges for gluing.

SANDER

Sanding Flat and Irregular Surfaces *(19 min., sd., b&w, 16 mm., Order No. OE 312, $33.75, USOE)* How the belt sander operates; how to prepare a sanding belt; sand flat stock on a belt sander; sand curved molding; and use and replace sandpaper on a disk sander and on a spindle sander.

SINGLE FACE SURFACER

Planing Rough Surfaces to Dimensions *(17 min., sd., b&w, 16 mm., Order No. OE 301, $30.50, USOE)* How to prepare for planing; plane stock to uniform thickness; determine the amount of cut to be made; regulate the speed of feeding; and adjust the surfaces to cut straight, even, clean surfaces.

SPINDLE SHAPER

Cutting Grooves with Circular Saw Blades *(22 min., sd., b&w, 16 mm., Order No. OE 320, $38.50, USOE)* How to set up the machine to cut grooves; cut grooves in stiles and rails; cut grooves for splines; and cut stop channels in mirror frame members.

Rabbeting and Shaping an Edge on Straight Stock *(18 min., sd., b&w, 16 mm., Order No. OE 318, $32.00, USOE)* Principle of the shaper operation; how to set up the machine for cutting rabbets; cut rabbets; set up the machine to shape molding; and shape a molding.

Shaping After Template and Shaping Curve Edges *(17 min., sd., b&w, 16 mm., Order No. OE 319, $30.50, USOE)* How to make a template for the job; install knives in the spindle; use the template when smoothing squared edges; set up equipment for shaping a curved edge; and shape a curved edge.

VARIETY SAW

Beveling, Mitering, Rabbeting, and Dadoing *(19 min., sd., b&w, 16 mm., Order No. OE 307, $33.75, USOE)* How to cut a bevel with tilted fence; set a miter gage; use a stopblock in mitering; set the fence and blade for cutting rabbets; and install and use a dado head.

Cutting Cove Molding and a Corebox *(19 min., sd., b&w, 16 mm., Order No. OE 311, $33.75, USOE)* How to select stock for cove molding; cut and rip cove molding; select the proper blade for oblique cutting; and cut a deep hollow.

Cutting Tenons and Segments *(15 min., sd., b&w, 16 mm., Order No. OE 308, $27.00, USOE)* How to lay out and cut a tenon; set up the equipment to make shoulder and check cuts, prepare a jig to trim and miter segments; and guide the jig, using a sliding miter gage.

Ripping and Cross-Cutting *(19 min., sd., b&w, 16 mm., Order No. OE 306, $33.75, USOE)* How each working part of the variety saw functions; how to check saw blades; set the fence; change saw blades; use a cutoff gage; and use a hinged block in crosscutting.

WOOD LATHE

Face Turning a Collar *(16 min., sd., b&w, 16 mm., Order No. OE 317, $28.50, USOE)* How to prepare the face plate chuck; turn the chuck to size; attach chuck to stock for the collar; turn the collar; turn the collar and hob to size; and taper turn the recess.

Turning a Cylinder Between Centers *(17 min., sd., b&w, Order No. 313, $30.50, USOE)* How to choose and center stock for a job; mount stock in the wood lathe for turning between centers; use the parting tool and the skew chisel; and sand turning work.

Turning Taper Work *(12 min., sd., b&w, 16 mm., Order No. OE 314, $22.25, USOE)* How to center cylindrical wood stock for spindle turning; make clearance cuts; establish the diameters of a taper; turn a single taper; establish diameters for turning two tapers from a single piece of stock; and turn the tapers.

Turning Work In a Chuck *(15 min., sd., b&w, 16 mm., Order No. OE 316, $27.00, USOE)* How to mount work on face plate; turn one face of the work, make a chuck for the opposite face; fit the finished face to the chuck; turn the second face; and remove rechucked work from the chuck.

Turning Work on a Face Plate *(15 min., sd., b&w, 16 mm., Order No. OE 315, $27.00, USOE)* Types of face plates; how to attach the stock to the face plate; true up the work; scribe the work for inside turning; use the round nose and diamond point chisels; and smooth the bottom of the recess.

WOOD PRESERVATION

Wood Preservation: Control of Marine Organisms *(21 min., sd., color, 16 mm., Order No. MN 8167-d, $71.50, USN)* Describes corrective measures for effective control of damage by marine organisms.

Wood Preservation Control of Wood Destroying Organisms *(24 min., sd.; color, 16 mm., Order No. MN 8167-b, $81.50, USN)* Outlines methods which can be employed to control wood destroying organisms—physical control by correcting conditions which enable fungi or insects to attack wood; chemical control by killing the organisms by means of toxic chemicals or preventing access to wood by creating a barrier of poisoned soil; and wood preservation through treating wood by various processes to make it unavailable as a food source for insects or fungi.

Wood Preservation Effects of Marine Organisms *(20 min., sd., color, 16 mm., Order No. MN 8167-c $68.25, USN)*. Shows the habits, characteristics and economic significance of marine organisms in waterfront structures.

Wood Preservation Inspection For Wood Destroying Organisms *(18 min., sd., color, 16 mm., Order No. MN 8167-a, $61.75, USN)* Describes problems faced by the Navy in maintaining its wooden structures. Explains that wood does not naturally decay, but is destroyed by living organisms-fungi and insects-and shows how to inspect for and identify these wood destroying organisms.

144

FILMSTRIPS

FILMSTRIP PRICES

All silent b&w filmstrips are $1.50; color, $5.50. All sound b&w filmstrips are $6.00; color, $10.00. Prices include postage in the U.S. and its possessions.

Summaries for the Office of Education filmstrips listed in this catalog can be found under the same film title in the motion picture section.

HEALTH & MEDICAL FILMSTRIPS—SILENT

5-030 The Life Cycle of a Malaria Parasite
93 fr., c, 35 mm.
Explains through drawings the various stages in the life cycle of a malaria parasite in man, including taxonomic position, terminology, and the more obvious clinical effects of malaria.

5-043 Vivax Malaria
76 fr., c, 35 mm.
Explains the distribution, clinical manifestations, diagnosis, treatment, and prevention of vivax malaria. Recommended for professional use.

5-073 Hookworm Disease and Hookworm Infection
77 fr., c, 35 mm.
Gives a general explanation of the history, diagnosis, treatment, and prevention of hookworm disease.

5-078 Chills and Fever: Why?
35 fr., c, 35 mm.
Explains the symptoms of vivax malaria; its cause: malaria parasites in the blood stream; its means of infection; life cycle of the parasite; and the chain of malaria transmission through the mosquito. Useful to general audience.

5-079 Fundamentals of Detergents
72 fr., b&w, 35 mm.
Explains the fundamental principles of detergents and their use in cleaning, and points out that detergents may be used for many specific purposes, including softening water, dispensing mineral formations, emulsifying grease, deflocculating soil particles, and decreasing surface tension. Recommended for professional use.

5-081 Sanitary Design in Drinking Fountains
5[illegible] fr., b&w, 35 mm.
Explains how improperly designed drinking fountains can transmit disease, and describes the characteristics of a properly designed fountain. Recommended for professional use. User should supplement film with current data.

5-090 Spread and Prevention of Trichinosis
67 fr., b&w, 35 mm.
Discusses the life cycle of Trichinella spiralis; prevalence and spread of trichinosis; symptoms of the disease; control measures; and consumer responsibilities. Recommended for professional use.

5-095 Worms in Your Muscles
52 fr., b&w, 35 mm.
Discusses the life cycle of Trichinella spiralis; the medical implication of trichinosis; and control measures and consumer precautions. Particularly useful to general audience.

5-097 Identification of Some Common Sucking Lice
60 fr., b&w, 35 mm.
Explains the morphological characteristics used to identify six genera and eight species of the more common lice in the United States.

5-113 The Use of Aircraft for Insect Control. Part I: Mosquito Control
71 fr., b&w, 35 mm.
Depicts the general techniques, materials, and equipment developed in the use of aircraft for mosquito control; and indicates the kind of situation in which such control may economically and feasibly be applied.

5-118 Home Safety and Health Departments
91 fr., b&w, 35 mm.
Stresses the importance of safety in the home and mentions ways in which health department personnel can promote home safety.

5-119 Constructing a Sanitary Pit Privy
70 fr., b&w, 35 mm.
Series: Environmental sanitation.
Demonstrates the public health values of the sanitary pit privy, the principles of sanitation involved in its construction, and construction procedures. Recommended for professional use.

5-136 Constructing a Farm Pond
78 fr., b&w, 35 mm.
Demonstrates the construction of a farm pond in accordance with principles explained by the county agent and county sanitation officer. User should supplement film with current data.

5-138 Primary Treatment Plants
47 fr., b&w, 35 mm.
Series: Municipal sewage treatment plants.
Pictures and describes units, structures, and details of equipment used in the operation of typical primary treatment plants for sewage treatment. Recommended for professional use.

5-140 Sampling and Testing Drinking Water
74 fr., c, 35 mm.
Presents instructions to be followed by sanitarians in the sampling of drinking water sources and in the procedures for identifying coliform organisms in drinking water. Recommended for professional use.

5-153 PVA-Fixative Technique in the Diagnosis of Amebiasis
72 fr., c, 35 mm.
Demonstrates a method of preserving fecal specimens in PVA fixative, examination of specimens, and shipment of specimens. Recommended for professional use.

5-155 The Preparation of Hematoxylin Stained Smears for Diagnosis of Intestinal Protozoa
69 fr., b&w, 35 mm.
Explains in detail the steps in preparing hemo-toxylin stained smears necessary to the diagnosis of intestinal protozoa. Recommended for professional use.

5-158 Chemical Precipitation Treatment Plants with Two-Stage Digestion
63 fr., b&w, 35 mm.
Series: Municipal sewage treatment plants.
Pictures and describes units, structures, and details of equipment used in chemical precipitation plants for sewage treatment. Recommended for classroom teaching.

5-159 Trickling Filter Plants
94 fr., b&w, 35 mm.
Series: Municipal sewage treatment plants.
Pictures and describes units, structures, and details of equipment used in the operation of trickling filter plants, showing biological aspects of sewage treatment processes. Recommended for professional use.

5-160 Activated Sludge Plant with Vacuum Filtration and Incineration
75 fr., b&w, 35 mm.
Series: Municipal sewage treatment plants.
Explains through schematic diagrams and photographs details of activated sludge and vacuum filtration units as applied to sewage treatment plants.

5-164 Diagnosis of Enterobiasis
40 fr., b&w, 35 mm.
Discusses the features of the life cycle of the pinworm, its migration habits, and the areas of its activity; mentions various methods of diagnosing enterobiasis through recovery of eggs and explains the disadvantages of these methods; and describes the cellulose tape method and its advantages. Recommended for professional use.

5-170 Simplified Serologic Identification of Shigella Cultures
29 fr., c, 35 mm.
Series: Isolation and identification of Salmonella and Shigella cultures.
Shows how Shigella cultures are grouped serologically and confirmed biochemically. Treats five groups: Shigella dysenteriae, flexneri, boydii, sonnei, and Alkalescens-dispar. User should supplement film with current data.

5-174 Basic Biology of Bacteria
56 fr., c, 35 mm.
Explains the characteristics of bacteria, differences in types, feeding and multiplication, and control through boiling, freezing, and pickling. Elementary explanation for non-professional audiences. User should supplement film with current data.

F-1 Microdissection Applied to Mosquito Identification
44 fr., b&w, 35 mm.
Explains the values, for identification purposes, of properly dissected male mosquito terminalia, preparation of the apparatus for microdissection, the microdissection, mounting parts of the terminalia, and examining them microscopically.

F-10a High-Temperature Short-Time Pasteurization: Equipment and Controls
96 fr., b&w, 35 mm.
Shows the essential components of a high-temperature short-time pasteurization installation, its structure, flow plan, and operating principles. Supplements the motion picture released under the title "High-temperature a short-time pasteurization; inspection and testing."

F-12 Basic Principles of the Analytical Balance
100 fr., b&w, 35 mm.
Explains the uses of the analytical balance and shows how to find the zero point of the balance, find its sensitivity, calibrate the weights, weigh an object, and weigh out a predetermined amount of material.

F-20a Epidemiology of Brucellosis (English)
86 fr., c, 35 mm.
Explains the epidemiology of brucellosis in cattle, swine, and goats; and its transmission to man. Covers in each case the method of infection, the course of the disease, and the public health and economic implications.

F-21a Basic Principles of Refrigeration
71 fr., b&w, 35 mm.
Series: Food handling.
Explains the importance of refrigeration in the prevention of food-borne disease outbreaks, the principles of the cooling cycle, and the maintenance and proper use of a refrigerator.

F-21b Refrigerated Food Storage Principles
62 fr., b&w, 35 mm.
Series: Food handling.
Explains the principles of refrigerated storage of foods and shows methods of storing foods in a refrigerator.

F-22 Fundamentals of the Human Blood Groups
70 fr., c, 35 mm.
Explains through symbols and stylized drawings the fundamentals of blood typing, including genetics of blood groups, incompatability of various groups, sensitization, and precautions in giving transfusions. Recommended for professional use.

F-34 Collection of Blood Specimens for Serological Examination (English)
69 fr., c, 35 mm.
Emphasizes the importance of blood specimens and shows how to collect a specimen from a patient at a clinic and at home, including preparation of equipment, techniques of venepuncture, and use of a Keidel tube. Recommended for professional use. User should supplement film with current data.

F-46 The Drilled Well: Sanitary Aspects
87 fr., c, 35 mm.
Shows suitable sanitary methods for constructing a drilled well, importance of proper site location and well construction, use of the drilling rig, installation and purpose of steel casing, and defects of drilled wells of improper construction. User should supplement film with current data.

F-47 The Dug Well: Sanitary Aspects
72 fr., c, 35 mm.
Public health aspects of dug wells, including principles relative to site selection, aspects of construction, types of pumps and their installation, disinfection and sampling of water.

F-81 Collection of Fecal Specimens
54 fr., c, 35 mm.
Emphasizes the importance of fecal specimens and explains the selection of a suitable container and preservative, procedures a patient should follow in collecting the specimen, preparation and use of rectal swabs, and use of two-bottle PVA fixative equipment. For professional use only.

F-82 Collection of Sputum Specimens (English)
60 fr., c, 35 mm.
Explains the principles of and the procedures for obtaining sputum specimens by coughing, the postural method, and gastric washings. Recommended for professional use.

F-91 Biology and Control of the Cockroach
62 fr., c, 35 mm.
A filmograph designed to train sanitarians in recognition and control of the cockroach. Describes new insecticides for the control of cockroaches which are resistant to chlordane.

F-95 Identification of Some Mosquitoes of Public Health Importance
56 fr., c, 35 mm.
Drawings, with captions, of various species of mosquitoes. The recording explains the system of distinguishing one species from another and of identifying each.

F-105 Collection of Specimens from the Eye, Nose, and Throat (English)
45 fr., c, 35 mm.
Emphasizes the importance of eye, nose, and throat culture specimens; and explains the preparation of equipment for the collection of such specimens, the routine in taking specimens from selected cases, preparation of specimens for shipment to the laboratory, and interpretation of laboratory reports. Recommended for professional use.

F-106a GS-1 Meets the Laboratory
91 fr., c, 35 mm.
Series: Basic laboratory training for non-professional workers.
Tells in story form how a beginning laboratory worker can avoid mistakes which might endanger himself, the equipment, and impending research results. Covers such points as washing dirty glassware, cleaning cages of infected laboratory animals, handling carboys and corrosives, and avoiding contamination of lunch.

F-106b Handling and Use of Glassware
82 fr., c, 35 mm.
Series: Basic laboratory training for non-professional workers.
Explains methods and precautions to be used in handling glassware in a laboratory.

F-106c Care of Laboratory Animals
80 fr., c, 35 mm.
Series: Basic laboratory training for non-professional workers.
Explains methods for handling, housing, and feeding rabbits, mice, rats, and other laboratory animals.

F-106d Using Animals in the Laboratory
68 fr., c, 35 mm.
Series: Basic laboratory training for non-professional workers.
Shows methods of handling rats, hamsters, guinea pigs, rabbits, and chicks for such purposes as giving injections, making venous punctures, taking temperature, and giving medication.

F-118 Epizootiology of Anthrax
67 fr., c, 35 mm.
Explains the epizootiology of anthrax, particularly the etiological agen, Bacillus Anthracis; the case history of an epizootic of anthrax arising from an import of contaminated bonemeal; the world wide distribution of anthrax; susceptibility of different animals to anthrax; methods of infection; and control measures.

F-119 Disinfection of Clinical Thermometers. Part I: Oral Thermometers
67 fr., c, 35 mm.
Demonstrates procedures to be followed in cleaning and disinfecting oral thermometers.

F-132a Filtration Plants (English)
59 fr., c, 35 mm.
Shows and explains the operations of the mixing basin, settling basin, gravity sand filters, and chlorinator of a water treatment plant, and storage of water in a reservoir. Recommended for classroom teaching.

F-133 Swimming Pool Sanitation
66 fr., c, 35 mm.
Shows some of the physical characteristics and operating procedures basic to swimming pool sanitation, including size considerations, recirculation of water, filter methods, dressing rooms, preparations for breakdowns, and maintenance of bath houses.

F-140 Transmission of Anthrax, Animal to Man
70 fr., c, 35 mm.
By artist's sketches and clinical photographs shows historical references to anthrax, anthrax spores in imported animal products, the pattern of human anthrax infection, effective control measures, clinical appearance and response to treatment of two cases of human anthrax, appearance of anthrax lesions in 5 additional cases, number and distribution of reported cases of anthrax in the U. S.

F-145 Arthropods of Public Health Importance
42 fr., c, 35 mm.
Shows the outstanding characteristics of one or more species of the following arthropods: cockroaches, mosquitoes, flies, bed bugs, triatoma, fleas, lice, scorpions, tarantulas, spiders, centipedes, ticks, and mites.

F-146a Functioning of Gas Feed Chlorinators. Part I: Visible Vacuum Chlorinator
57 fr., c, 35 mm.
Illustrates the piping system and parts of a visible vacuum chlorinator, function of the parts, and points to be checked in the inspection of the machine. Recommended for professional use.

F-146b Functioning of Gas Feed Chlorinators. Part II: Volume Metering Chlorinator
42 fr., c, 35 mm.
Illustrates the primary parts of a volume metering chlorinator, functions of the different parts, and points to be checked in the inspection of the machine. Recommended for professional use.

F-148e Basic Principles of Kitchen Layout
84 fr., b&w, 35 mm.
Series: Food handling.
Explains by artists' drawings and narration the basic principles of layout of kitchen facilities and equipment for eating establishments, showing sizes and shapes of kitchens, work flow arrangements, factors affecting economy and efficiency of equipment layout, location of storage facilities, and the relationship of proper equipment to cleanliness.

F-148k.1 Food Sanitation. Part I: Construction of Building
34 fr., c, 35 mm.
Illustrates various degrees of acceptability and non-acceptability of restaurant construction according to U. S. Public Health Service sanitation standards for eating and drinking establishments.

F-148k.2 Food Sanitation. Part II: Utensils and Equipment.
36 fr., c, 35 mm.
Illustrates various degrees of acceptability and non-acceptability of utensils and equipment for restaurants according to U.S. Public Health Service sanitation standards for eating and drinking establishments.

F-148k.3 Food Sanitation. Part III: Washing and Storage
65 fr., c, 35 mm.
Illustrates various degrees of acceptability and non-acceptability of washing and storage procedures for restaurants according to U.S. Public Health Service sanitation standards for eating and drinking establishments.

F-148k.4 Food Sanitation. Part IV: Refrigeration and Food Handling
48 fr., c, 35 mm.
Illustrates various degrees of acceptability and non-acceptability methods of food refrigeration and food handling according to U. S. Public Health Service sanitation standards for eating and drinking establishments. User should supplement film with current data.

F-165 A Large Water Treatment Plant
84 fr., c, 35 mm.
Shows the equipment in a large modern water treatment plant, including raw water and in-take facilities and structures; chemical treatment, coagulation, and settling devices; filters; chlorinators; and corrosion control equipment. For sanitarians and engineers. Recommended for professional use.

F-168 Collecting Specimens for Virus Diagnosis
58 fr., c, 35 mm.
Shows type of specimens of value for virus diagnosis; emphasizes the importance of timely collection; demonstrates procedures for rapid preservation; suggests types of shipping containers and precautions in packing to insure against damage in transit; and emphasizes the importance of sending complete data with the specimen. Recommended for professional use.

F-171 An Introduction to Backsiphonage and Cross Connections (English)
75 fr., c, 35 mm.
Describes the public health significance of two defects of plumbing system-backsiphonage and cross connections; identifies their basic causes; and explains methods of prevention.

F-172 Isolation and Identification of Beta Hemolytic Streptococci
94 fr., c, 35 mm.
Shows the preparation of blood agar pour plates; procedures for isolating samples from swabs; identification of the organisms; and procedures for isolating samples from Loeffler slants. Recommended for professional use.

F-176 Basic Use of Levels by Sanitarians
45 fr., c, 35 mm.
Illustrates, through a demonstration of a septic tank installation, the basic use of the engineer's level, string level, carpenter's level, transverse horse filled with water, and hand level.

F-186b Cleaning-In-Place for Pasteurization Plants
63 fr., c, 35 mm.
Illustrates the cleaning-in-place method of cleaning milk lines by recirculating a cleaning solution throughout the piping system instead of taking down all milk pipes and connections and cleaning them individually. For sanitary engineers, sanitarians, and dairy science students. User should supplement film with current data.

F-190 Mosquito Larval Habitats
74 fr., c, 35 mm.
Describes the various types of mosquito larval breeding places; explains the classification of larval habitats as related to mosquito surveys. Designed primarily for sanitarians and mosquito-control trainees.

SPF-209 A Plant Health Program
55 fr., b&w, 35 mm.
Shows a typical occupational health program in operation in a modern printing plant.

F-221a Laboratory Diagnosis of Ringworm in Animals. Part 2: Trichophyton Infections
60 fr., c, 35 mm.
Describes the clinical features of trichophyton ringworm in animals, methods of collecting material for laboratory study, and laboratory methods for examining clinical materials, inoculating culture media, and identifying trichophyton species. Illustrates the mode of transmission of infections from animals to man and the appearance of human trichophyton infections of animal origin. Recommended for professional use.

F-225 Operation of Hypochlorinators
57 fr., c, 35 mm.
Depicts through the use of photographs and graphics, the correct installation and operation of hypochlorinators. Explains their uses, advantages and principles of operation.

F-229a The Sanitary Landfill. Part 1: Operating Procedures (English)
59 fr., c, 35 mm.
Shows and describes details of sanitary landfill operations in level sites, deep valleys, rolling terrain, and marshy areas.

F-229b The Sanitary Landfill. Part 2: Small Community Landfills (English)
41 fr., c, 35 mm.
Points out the public health advantages of the sanitary landfill for refuse disposal, and shows how such landfills can be adopted to small towns and communities.

F-242 A Flocculation Test for Trichinosis
85 fr., c, 35 mm.
Shows the materials used and complete procedures for the modified bentonite flocculation test, including reconstitution of the bentonite, preparation of the antigen, standardization of the reagents, and typical appearance of the flocuclated particles. For laboratory technicians. Recommended for professional use.

F-256 The Collection and Shipment of Insects
70 fr., c, 35 mm.
Shows methods of collecting, preserving and shipping insects and certain other arthropods.

F-290 Aedes Aegypti Survey Techniques
82 fr., c, 35 mm.
Shows techniques and procedures used in an actual Aedes aegypti survey, including orientation and briefing of mosquito control personnel before the survey, selection of areas to be sampled, types of equipment used, various habitats of Aedes aegypti, and larvae sampling and adult collecting.

SPF-296 Domestic Vector Control by Basic Sanitation
49 fr., c, 35 mm.
Shows how common vectors of diseases (flies, rats, mosquitoes, and roaches) thrive on unsanitary conditions in and around the home, and demonstrates some simple sanitary practices which can help control these vectors.

F-298 Use of Anticoagulants in Rodent Control
76 fr., c, 35 mm.
Describes the use of anticoagulants to kill rodents, advantages of these poisons, various forms and types of anticoagulants available, preparation of the various baits, placement of these poisons to provide the most efficient results, and precautionary measures when using these materials.

F-340 Introduction to the Insects and Their Allies
65 fr., c, 35 mm.
Shows structural relationships and phylogeny of principal classes of arthropods leading up to Insecta and Arachnida; describes the main orders of these two classes, their relationships, and their importance in medicine and public health.

F-343 Staphylococcal Disease: Manifestations, Prevention and Control
36 fr., c, 35 mm.
Stylized drawings depict various clinical manifestations of hospital-acquired staphylococcal disease, the ways by which it is spread, and some of the techniques and methods useful in the control of infections. User should supplement film with current data.

F-361 The Nurse—Epidemiologist
95 fr., c, 35 mm.
Outlines the knowledges, duties, and responsibilities of the public health nurse in an epidemiological investigation. Includes sequences on identification of specific epidemiological patterns of time, place, and persons; the spread of pathogenic organisms; how disease organisms reach the various portals of entry; and chronological order of the nurse's duties during an investigation.

F-363 Epidemiology of Staphylococcal Infections
112 fr., c, 35 mm.
Traces the epidemiologic pattern of staphylococcal infection from reservoir to environment and to host within the hospital; shows that hospital personnel frequently are carriers of antibiotic-resistant, epidemic strains of staphylococcus, and that these personnel carriers may infect patients through direct contamination or, through contamination of the environment. User should supplement film with current data.

F-386 The Membrane Filter
80 fr., c, 35 mm.
Describes the use of the membrane filter, its advantages and disadvantages over other methods used for the examination of water, and the latest techniques, procedures, and equipment required for its use.

F-388 Introduction to Tissue Culture Techniques
51 fr., c, 35 mm.
An introduction to laboratory practice in tissue-culture techniques. Using monkey tissue as an example, demonstrates the step-by-step procedures in producing and maintaining a tissue culture. Briefly summarizes the users of tissue cultures.

F-399 Listeriosis
45 fr., c, 35 mm.
A resume in pictures of diagnostic characteristics of listeriosis from a clinical and a bacteriological viewpoint. The text includes a description of the ecology and therapy of the disease in man and animals.

F-449.1 Filariasis Story in India. Part I: Entomological and Parasitological Aspects of Filariasis in India
65 fr., c, 35 mm.
Covers mosquito vectors, history and breeding areas, life cycle of W. bancrofti and W. malayi, morphology, including microfilariae in stained blood films. Larval stages in mosquito. Recommended for professional use.

F-449.2 Filariasis Story in India. Part II: Elephantiasis in India
83 fr., c, 35 mm.
Disease manifestations, treatment, popular beliefs, socio-economic effects, and mental health aspects and social restrictions imposed. Recommended for professional use.

F-449.3 Filariasis Story in India. Part III: Training, Research, and Control Aspects of Filariasis in India
66 fr., c, 35 mm.
Covers training centers for clinic, laboratory, and field workers. Functions of trained workers such as blood examinations for microfilariae, history taking from patients, mosquito collections and identifications, and field investigations. Recommended for professional use.

F-449.4 Filariasis Story in India. Part IV: Facts about Filariasis and its Control in India
62 fr., c, 35 mm.
Distribution map, pathology of early and late infections, vector biology, life history, laboratory examinations, factors of epidemiology, treatment, control, training and research. Recommended for professional use.

F-675 State-wide Epilepsy Control
55 fr., c, 35 mm.
Modern treatment and public acceptance of the epileptic are the answer to a disease which has been dreaded by mankind through the centuries. This film tells of state action to find and treat the epileptic and encourages other states and their citizens to provide similar programs of care.

F722 Glaucoma Screening - A 3-Minute Test for a Lifetime of Sight
75 fr., c, 35 mm.
Illustrates five effective types of glaucoma screening programs in the community, advocated by the Public Health Service: family physician, hospital visit, periodic company physical, public health clinic check-up, and mobile glaucoma detection clinics. Shows how such programs, designed to detect and arrest incipient glaucoma, saved five people from a lifetime of blindness. The cause, nature, effect, symptoms, and treatment of glaucoma are shown and explained as well as the statistical incidence of the disease.

HEALTH & MEDICAL FILMSTRIPS—SOUND

F-1470-x Care of the Patient With Hydrocephaly
35 mm., color, sd.
The filmstrip describes how the patient with Hydrocephaly is cared for at the Plymouth State Home and Training School, Northville, Michigan. It presents some of the physical descriptions of the head and spinal cord, and also a brief discussion of some of the causes and diagnostic procedures.

F-1471-x Techniques for Maintenance of Range of Motion
35 mm., color, sd.
Demonstrates the various passive exercises that can be used in aiding the patient to maintain joint mobility. It also depicts the use of exercises as a method of helping the mentally retarded, physically handicapped to know what their arms and legs are doing. Exercises are applicable in the care of any patient who is confined to prolonged bed rest.

F-1472-x Bi-Valve Casts, Their Construction and Application
35 mm., color, sd.
Describes the purpose and value of bi-valve casts: helping to keep the child's legs in good alignment, prevention of the formation of contractures, and aiding the child in maintaining an upright or standing position. Film follows procedure from preparation of the extremity, construction of the cast, to demonstration.

F-1584X Growing Up At The Table: Teaching Feeding Skills To The Mentally Retarded Child At Home, Part I
35 mm., color, sd.

F-1585X Growing Up At The Table: Teaching Feeding Skills to Mentally Retarded Children in Groups, Part II
35 mm., color, sd.

F-1586X Diapers Away: Toilet Training the Mentally Retarded Child At Home, Part I
35 mm., color, sd.

F-1587X Diapers Away: Toilet Training Mentally Retarded Children in Groups, Part II
35 mm., color, sd.

SUMMARY: Most mentally retarded children can be trained, with time, by persons having patience, and a knowledge of training techniques. These filmstrips demonstrate techniques for teaching feeding skills and toilet use to groups of children in institutions, day-care centers, etc. or at home.

F-1588-x That They Might Walk Alone
35 mm., color, sd.
Explains the importance of teaching the mentally retarded to walk as soon as possible since walking provides beneficial exercise and gives the child more opportunities for learning and socialization. Demonstrates techniques which are effective in teaching a child to walk.

F-1593 How To Complete a Certificate of Live Birth
93 fr., color, 35 mm., sd., NMAC
A filmstrip that teaches the proper steps of completing a live birth certificate after the live delivery of an infant is accomplished.

FILMSTRIPS—SOUND —MISCELLANEOUS

Vocational Education Needs Your Ideas *(24 fr., color, sd., 35 mm., 33 1/3 rpm recording, 15 min., USOE)* Relates the changing economy and occupational scene to educational requirements to stimulate professional educators to think about ways in which vocational education can make its most meaningful educational contribution. Research and development ideas are solicited.

The Promise of Vocational Education *(24 fr., color, sd., 35 mm., 33 1/3 rpm recording, 15 min., USOE)* Shows how the changing nature of jobs is due to changing technology, new requirements for vocational education, and the benefits of such education to the individual. Designed for non-professional audiences.

Parks for People *(99 fr., color, sd., 35 mm., 33 1/3 rpm recording, 13 min., 1969, HUD)* Stresses the need for open space and beautification in America's cities. Focuses on various HUD programs with special emphasis on citizen participation in the development of neighborhood parks. Shows how residents can remove unsafe buildings, eliminate health and safety hazards, let in light and fresh air, plant flowers and trees, and generally improve the community.

How Non-Profit Groups Can Sponsor Housing for Low-Income Tenants *(66 fr., color, sd., 35 mm., 33 1/3 rpm recording, 10 min., 1968, HUD)* Acquaints the audience with HUD programs available to groups interested in sponsoring housing. Describes the procedure followed by a particular non-profit sponsor in developing a housing project.

Hope For Hough *(64 fr., color, sd., 35 mm., 9 min., 1968, HUD)* Shows the rehabilitation of the Belvidere Apartments in the Hough area of Cleveland, Ohio by the non-profit corporation HOPE, Inc. It was the first project under the Federal Rent Supplement Program.

The Development of a Postage Stamp *(80 fr., color, sd., 35 mm., 33 1/3 rpm recording, USPO)* Illustrated story traces the development of a new stamp from the selection of the design to the first day of issue. Details of the actual engraving process making the plates and printing processes not usually seen by the public are explained. Includes section on the selection and printing of commemorative stamps.

NAVY FILMSTRIPS—SILENT

SN-130 Vertical Welds-Steel
41 fr., b&w, 35 mm., sil.

SN-184 Metal Finishing
62 fr., b&w, 35 mm., sil.

SN-649 Tuning-Radio
27 fr., b&w, 35 mm., sil.

RADIO TECHNICIAN TRAINING SERIES

SN-1540-AA Capacitance
22 fr., b&w, 35 mm., sil.

SN-1540-AB Inductance
38 fr., b&w, 35 mm., sil.

SN-1540-AC RCL-Resistance
34 fr., b&w, 35 mm., sil.

SN-1540-AT Current and Electromotive Force
38 fr., b&w, 35 mm., sil.

SN-1540-AV Series and Parallel Circuits
26 fr., b&w, 35 mm., sil.

SN-1540-AW Synchro System P-I
36 fr., b&w, 35 mm., sil.

SN-1540-AX Synchro System P-II
24 fr., b&w, 35 mm., sil.

SHIPBUILDING SKILLS

SN-2334-M Nomenclature of Ships
98 fr., b&w, 35 mm., sil.

SN-2335-M Ships Blueprints-Basic
92 fr., b&w, 35 mm., sil.

SN-2337-N Pipefitting-Making a Wire Template
23 fr., b&w, 35 mm., sil.

SN-2337-O Pipefitting-Making a Hot Bend
42 fr., b&w, 35 mm., sil.

SN-2337-P Pipefitting-Fitting and Installing
66 fr., b&w, 35 mm., sil.

SN-2338-M The Shipfitter-Lifting a Template
40 fr., b&w, 35 mm., sil.

SN-2338-N The Shipfitter-Simple Foundation
98 fr., b&w, 35 mm., sil.

SN-2339-N Sheetmetal Work-Vaned Elbow-Layout and Fabrication
60 fr., b&w, 35 mm., sil.

SN-2339-O Sheetmetal Work-Watertight Cover
49 fr., b&w, 35 mm., sil.

SN-2339-P Sheetmetal Work-Transition Piece, Square to Round-Layout and Fabrication
45 fr., b&w, 35 mm., sil.

SN-2340-U Rigging Blocks
57 fr., b&w, 35 mm., sil.

SN-2341-M Stern Launching-Fore Poppet and Internal Showing Construction
75 fr., b&w, 35 mm., sil.

SN-2343-N Sailmaking-Hatch Canopy
90 fr., b&w, 35 mm., sil.

SN-2346-M The Coppersmith-Flaring and Reducing
43 fr., b&w, 35 mm., sil.

SN-2346-N The Coppersmith-Working out Branches from a Line
63 fr., b&w, 35 mm., sil.

SN-2348-M Outside Machinist-Reciprocating Pump-Opening for Inspection
34 fr., b&w, 35 mm., sil.

SN-2348-N Outside Machinist-Reconditioning A Cylinder with a Portable Boring bar
70 fr., b&w, 35 mm., sil.

OFFICE OF EDUCATION

FILMSTRIPS—SILENT

OE 1-fs The Steel Rule
52 fr., b&w, 35 mm., sil.

OE 2-fs The Micrometer
38 fr., b&w, 35 mm., sil.

OE 3-fs Fixed Gages
35 fr., b&w, 35 mm., sil.

OE 4-fs Verniers
37 fr., b&w, 35 mm., sil.

OE 5-fs Height Gages and Test Indicators
34 fr., b&w, 35 mm., sil.

OE 6-fs Rough Turning Between Centers
41 fr., b&w, 35 mm., sil.

OE 7-fs Turning Work of Two Diameters
34 fr., b&w, 35 mm., sil.

OE 8-fs Cutting a Taper With the Compound Rest and With a Taper Attachment
41 fr., b&w, 35 mm., sil.

OE 9-fs Drilling, Boring, and Reaming Work Held in Chuck
47 fr., b&w, 35 mm., sil.

OE 10-fs Cutting an External National Fine Thread
44 fr., b&w, 35 mm., sil.

OE 11-fs The Milling Machine
45 fr., b&w, 35 mm., sil.

OE 12-fs Cutting Keyways
42 fr., b&w, 35 mm., sil.

OE 13-fs Straddle and Surface Milling to Close Tolerances
53 fr., b&w, 35 mm., sil.

OE 14-fs Straddle Milling
40 fr., b&w, 35 mm., sil.

OE 15-fs Plain Indexing and Cutting a Spur Gear
53 fr., b&w, 35 mm., sil.

OE 16-fs Rough-Facing, Turning and Drilling
49 fr., b&w, 35 mm., sil.

OE 17-fs Rough-Facing, Boring, and Turning a Shoulder
47 fr., b&w, 35 mm., sil.

OE 18-fs Facing, Turning, Boring, Grooving, and Chamfering
52 fr., b&w, 35 mm., sil.

OE 19-fs Cutting a Keyway on End of a Finished Shaft
42 fr., b&w, 35 mm., sil.

OE 20-fs Machining a Cast Iron Rectangular Block
52 fr., b&w, 35 mm., sil.

OE 21-fs Machining a Tool Steel V Block
33 fr., b&w, 35 mm., sil.

OE 22-fs Drilling and Tapping Cast Steel
48 fr., b&w, 35 mm., sil.

OE 23-fs Drilling to a Layout and Spot-Facing Cast Iron
37 fr., b&w, 35 mm., sil.

OE 34-fs Cutting Threads with Taps and Dies
48 fr., b&w, 35 mm., sil.

OE 35-fs Scraping Flat Surfaces
33 fr., b&w, 35 mm., sil.

OE 36-fs Fitting and Scraping Small Bearings
50 fr., b&w, 35 mm., sil.

OE 37-fs Reaming with Straight Hand Reamers
47 fr., b&w, 35 mm., sil.

OE 38-fs Reaming with Taper Hand Reamers
41 fr., b&w, 35 mm., sil.

OE 39-fs Centering Small Stock
34 fr., b&w, 35 mm., sil.

OE 40-fs Laying Out Small Castings
32 fr., b&w, 35 mm., sil.

OE 41-fs Fundamentals of Filing
52 fr., b&w, 35 mm., sil.

OE 42-fs Fundamentals of Side Cutting Tools
27 fr., b&w, 35 mm., sil.

OE 43-fs Fundamentals of End Cutting Tools
30 fr., b&w, 35 mm., sil.

OE 44-fs Turning a Taper with the Tailstock Set Over
54 fr., b&w, 35 mm., sil.

OE 45-fs Cutting an External Acme Thread
63 fr., b&w, 35 mm., sil.

OE 46-fs Drilling a Hole in a Pin
35 fr., b&w, 35 mm., sil.

OE 47-fs Locating Holes, Drilling and Tapping in Cast Iron
41 fr., b&w, 35 mm., sil.

OE 48-fs Countersinking, Counterboring, and Spotfacing
49 fr., b&w, 35 mm., sil.

OE 49-fs Precision Gage Blocks
28 fr., b&w, 35 mm., sil.

OE 50-fs The Bevel Protractor
34 fr., b&w, 35 mm., sil.

OE 51-fs Visualizing an Object
39 fr., b&w, 35 mm., sil.

OE 52-fs Reading a Three-View Drawing
30 fr., b&w, 35 mm., sil.

OE 53-fs Principal Dimensions, Reference Surfaces and Tolerances
25 fr., b&w, 35 mm., sil.

OE 54-fs Sectional Views and Projections, Finish Marks
29 fr., b&w, 35 mm., sil.

OE 55-fs Reading a Drawing of a Valve Bonnet
30 fr., b&w, 35 mm., sil.

OE 56-fs Cutting an Internal Acme Thread
38 fr., b&w, 35 mm., sil.

OE 57-fs Cutting an Internal Taper Pipe Thread
35 fr., b&w, 35 mm., sil.

OE 58-fs Turning Work Held on a Fixture
34 fr., b&w, 35 mm. sil.

OE 59-fs Boring to Close Tolerances
24 fr., b&w, 35 mm., sil.

OE 60-fs Machining Work Held in Chuck: Use of Reference Surfaces
41 fr., b&w, 35 mm., sil.

OE 61-fs Turning Work Held on a Mandrel
28 fr., b&w, 35 mm., sil.

OE 62-fs Using a Steady Rest
34 fr., b&w, 35 mm., sil.

OE 63-fs Using a Follower Rest
30 fr., b&w, 35 mm., sil.

OE 64-fs Using a Boring Bar Between Centers: Work Held on Carriage
33 fr., b&w, 35 mm., sil.

OE 65-fs Using a Steady Rest When Boring
39 fr., b&w, 35 mm., sil.

OE 66-fs Planing a Flat Surface
48 fr., b&w, 35 mm., sil.

OE 67-fs Planing a Dovetail Slide
38 fr., b&w, 35 mm., sil.

OE 68-fs The Lathe
49 fr., b&w, 35 mm., sil.

OE 69-fs The Milling Machine
41 fr., b&w, 35 mm., sil.

OE 70-fs The Shaper
40 fr., b&w, 35 mm., sil.

OE 71-fs The Drill Press
32 fr., b&w, 35 mm., sil.

OE 72-fs Using a Shell End Mill
20 fr., b&w, 35 mm., sil.

OE 73-fs Cutting a Dovetail Taper Slide
38 fr., b&w, 35 mm., sil.

OE 74-fs Cutting a Round End Keyway
32 fr., b&w, 35 mm., sil.

OE 75-fs Milling a Helical Groove
35 fr., b&w, 35 mm., sil.

OE 76-fs Milling a Circular T-slot
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FILM TITLE INDEX

A

The A + School 83
Abandon Ship 93
Abdominal Aortic Aneurysm Replacement with Nylon Graft 60
About Fallout 83
Accel: Automated Circuit Card Etching Layout 97
Accounting and Finance—Serving You Right 18
Ace in the Hole 6
Acne Vulgaris: Its Pathogenesis 62
Acromegaly (Diagnosis—Etiology—Therapy) 96
Across-the-Line Starters 25
Activity for Schizophrenia 57
Adding or Removing Refrigerant 132
Adjusting and Checking the Expansion Valve 132
Adjusting and Repairing the Thermo Expansion Valve 132
Adjusting Commercial Thermostatic Controls 132
Adjusting Pressure Actuated Temperature Control Devices 132
Admiral Burke Takes Command 118
The Admiralty Islands 120
Advance Base Waterfront Construction: Timber Piers 126
Advanced Helicopter Flight Principles. Part I 9
Advanced Helicopter Flight Principles. Part II 9
Advanced Test Reactor 104
Adventures in Inner Space 65
The Aedes Aegypti Inspector 33
Aedes Aegypti TV Spots 63
Aerial Navigation: Map Reading 13
Aerial Tour of White Sands Missile Range 111
Aero Medical Research 47
Aerodynamics—Air Flow 95
Aerodynamics: Forces Acting on an Air Foil 95
Aerodynamics: Fundamentals of Roll-Divergence 95
Aerology (Thunderstorms) Part 1: Formation and Structure of Thunderstorms 95
Aerology (Thunderstorms) Part 2: Flight Techniques with Respect to Thunderstorms 115
The Aerospace Medical Division—Air Force Systems Command—The Universe Within 114
Aerospace Power 112
Aerospace Technology 15
African Trypanosomiasis 51
Aids to Navigation 77
Air and Gas Cleaning for Nuclear Energy 106
The Air Force on Canvas 8
Air Force Cameras in Action 131
Air Force Family Housing 66
The Air Force Heavy Press Program 19
Air Force Industrial Medicine in Action 43
Air Force Industrial Medicine in Action: Physical Hazards 93
Air Force Logistics Command Log 1966 15
The Air Force Missile Mission 114
Air Force News Review No. 142—Air Force 20 (1947-1967) 118
Air Force Non-Destructive Testing 19
The Air Force Nurse—A Report of the Profession 65
Air Force Occupational Medical Program 91
The Air Force Story: A New Air Force, 1945-1947 11
The Air Force Story: After the War, 1918-1923 10
Air Force Story: Air Power Advances, 1935-1937 10
The Air Force Story: Air War Against Japan, 1944-1945 11
The Air Force Story: Between Wars, 1930-1935 10
The Air Force Story: Cold War, 1948-1950 11
The Air Force Story: D-Day, June 1944 11
The Air Force Story: Entering the Era of Missiles 11
The Air Force Story: Expanding Air Power, June 1943 10
The Air Force Story: Global Operations, 1943 10
The Air Force Story: Human Factors in Space Flight, 1950-1960 11
The Air Force Story: Maximum Effort, October 1943 11
The Air Force Story: Meeting the Red Challenge 11
The Air Force Story: North Africa, November 1942-May 1943 10
The Air Force Story: On to the Yalu, June 1950 11
The Air Force Story: Our World-Wide Air Force, 1953-1959 11
The Air Force Story: Ploesti, March-August 1944 11
The Air Force Story: Prelude to Invasion, January-June 1944 11
The Air Force Story: Prelude to War, 1937-1939 10
The Air Force Story: Retreat and Advance, June 1944-March 1945 11
The Air Force Story: Road to Rome, September 1943-June 1944 11
The Air Force Story: Schweinfurt and Regensburg, August 1943 10
The Air Force Story: Struggle for Recognition 10
The Air Force Story: Superfort, August 1943-June 1944 11
The Air Force Story: The Air Force and the Atom Bomb 11
The Air Force Story: The Air Force Academy 11
The Air Force Story: The Air War Starts, 1939-1941 10
The Air Force Story: The AAF Fights Back, April-July 1942 10
The Air Force Story: The Beginning 10
The Air Force Story: The Drawing of the Battle Lines, December 1941 to April 1942 10
The Air Force Story: The Final Phase 11
The Air Force Story: The Tide Turns, June-December 1942 10
The Air Force Story: Two Years of War, September-December 1943 11
The Air Force Story: Victory in Europe, June 1944-May 1945 11
Air Force Tactical Firepower 11
The Air Force Technical Order System 19
The Air Force's Flying Hospitals 46
Air Guard on the Go 86
Air Masses and Fronts—Air Masses 115
Air Masses and Fronts—Fronts and the Surface Weather Map 115
Air Masses and Fronts—The Cold Front 115
Air Masses and Fronts—The Occluded Front 115
Air Masses and Fronts—The Warm Front 115
Air Operations in the Antarctic 121
Air Pollution in the New York-New Jersey Interstate Area 43
Air Power and the Man 118
Air Power in Action—The U.S. Air Force in Vietnam 6
The Air Rescue Service 16
The Air Reserve Forces 86
Air Sampling for Microbiological Particulates 47
Air Start Check Valve, Cylinder Relief Valve, and Indicator Cock 74
Air Traffic Control Procedures 6
The Air Weather Service of the USAF 115
Airborne Transmission of Tubercle Bacilli 63
Aircraft Accident Investigation 91
The Aircraft Called Seventy 15
Aircraft Engine R3350-30W—Principles of Operation 12
Aircraft Engines—Elements of Electricity as Applied to Ignition Systems 12
Aircraft Familiarization: T2J-1 Buckeye, Aircraft Systems 6
Aircraft Familiarization: T2J-1 Buckeye, Carrier Procedures 7
Aircraft Familiarization: T2J-1 Buckeye, Emergency Procedures 6
Aircraft Familiarization: T2J-1 Buckeye, Field Carrier Landing Procedures 7
Aircraft Familiarization: T2J-1 Buckeye, Operating Procedures 7
The Aircraft Magneto : Theory and Operation of the Four-pole Magneto 12
The Aircraft Magneto: Theory and Operation of the Fourpole Magneto 109
The Aircraft Observer's Place in the Air Force 7
Aircraft Tires and Tubes: Shop Inspection, Storage, and Disposition 12
The Airmobile Division 118
Airplane Structures—Control Surfaces 12
The Alaskan Earthquake, 1964 116
Alaskan Patrol 121
Alert in the Pacific 86
Aleutian Manning 86
Aleutian Skywatch 86
All Weather Testing of Aeronautical Systems 15
The Allen Case 67
An Allied View of American Heritage 118
Along Our Shores 118
Ambulation Training for the Parkinson Patient 63
Ambulation Training of the Hemiplegic Patient 58
America in Space—The First Decade 111
American First Army: Aachen to the Roer River 120
American Navy in Vietnam 120
American Ninth Army: Aachen to the Roer River 120
The American Soldier in Combat 118
Amperes, Volts, and Ohms 26
Analysis of Nucleon—Nucleon Scattering Experiments 102
Anatomic Landmarks in Panorex Radiography 40
Ancylostoma Caninum in the Intestine of the Dog 51
Another Day of War—The USAF in Vietnam 6
Another Way 122
An Answer 118
Anterior Acrylic Bridgework. Part III: Variations, and Entirely Direct Technique 36
Antigen Analysis by Cellulose Chromatography and Gel Diffusion of Hydatid Fluid 35
Anytime—Anything—Anyplace 20
Apically Repositioned Partial Thickness Flap To Eliminate Peridontial Pockets 40
Apollo Mission Highlights 110
The Apollo 4 Mission 110
Apollo 9: The Space Duet of Spider and Gumdrop 110
Application of Pascal's Law: Part 2 109
Applications of Pascal's Law: Part 1 109
Appraising Soils for Soil Absorption Systems 43
An Approach to Understanding Dynamics 57
Architects of Peace 123
Arctic Airlift 8
Arctic Fire Protection 93
Arctic Shipping: MSTS Arctic Operations 20
Area Poisoning 33
Argonne Fast Source Reactor 105
The Argonne Gamma Irradiation Facility 105
Ariel—The First International Satellite 111
Armour Research Reactor 105
Army Aircraft Gas Turbine Engine Operation, Part 1: Principles of Operation 109
Army Aircraft Gas Turbine Engine Operation, Part I: Principles of Operation 14
Army Aircraft Gas Turbine Engine Operation, Part II: Controls and Instrumentation 14
Army Aircraft Gas Turbine Engine Operation, Part III: Construction and Operation of the T-53 14
Army Aircraft Gas Turbine Engine Operation, Part 2: Controls and Instrumentation 109
Army Aircraft Gas Turbine Engine Operation, Part 3: Construction and Operation of the T-53 109
Army Package Power Reactor 99
Arthropod-Borne Encephalitis—Its Epidemiology and Control 52
Articulatory Movements in the Production of English Speech Sounds. Part I: Consonants 22
Articulatory Movements in the Production of English Speech Sounds. Part II: Vowels and Glides 22
Artificial Respiration 43
Asceptic Procedure in Oral Surgery 36
Asiatic Schistosomiasis 51
Assembling in a Jig: Drilling and Riveting 14
Assembling in a Jig: Fitting and Lining Up 14
Assignment: Shoot the Moon 112
The Astronomical Triangle 77
At the Crossroads (long version) 63
At the Crossroads (short version) 63
Atmospheric Stability and Instability: Adiabatic Process 115
Atmospheric Stability and Instability: Existing Temperature 115
Atmospheric Stability and Instability: Stability and the Weather 115
Atmospheric Stability and Instability: Thermal Convection 115
The Atom and the Man on the Moon 95
The Atom Strikes 102
Atomic Power Today 100
Atomic Power Today: Service with Safety 100
Atomic Tests in Nevada 102
Atomic Weatherman: Strontium-90 Isotopic Applications 97
Atoms for the Americas 98

Atoms for Peace: Geneva—1958 98
Atoms for Space 95
Atoms in the Marketplace 98
Atoms on the Farm 96
Atoms on the Move: Transportation of Radioactive Materials 106
Attack! The Battle for New Britain 120
Audio Oscillator Operation 28
Australorbis Glabratus, Vector of Schistosoma Mansoni 51
Automobile Electricity for Military Vehicles. Part 2: Principles of Operation of the Generator 4
Automobile Tire Hydroplaning: What Happens 92
Automotive Electricity for Military Vehicles. Part 3: Principles of the Starting Motor 4
Automotive Electricity for Military Vehicles. Part 4: The Ignition Circuit 4
Automotive Trouble Shooting. Part 2: Engine Tune-Up 4
Aviation Mechanic 8
Aviation Mechanic 65
Aviation Workshop 65
Away Boarders 120
AASHO Road Test: Construction and Materials 126
AASHO Road Test: Pavement Research 126
AASHO Road Test: The Road to Better Roads 126
The ABC of G 109
ABC Warfare Defense Ashore: Biological and Chemical Decontamination: Exteriors 83
ABC Warfare Defense Ashore: Biological Warfare Decontamination: Interiors 83
ABC Warfare Defense Ashore: Biological Warfare Decontamination: Personal Equipment 83
ABC Warfare Defense Ashore: Biological Warfare Decontamination: Personnel 83
ABC Warfare Defense Ashore: Chemical Warfare Decontamination: Personnel 83
ABC Warfare Defense Ashore: Detection of Contaminated Areas in Biological and Chemical Warfare 83
ABC Warfare Defense Ashore: Protective Clothing for Decontamination Personnel 83
ABC Warfare Defense Ashore: Rescue Operations; Lifting Devices, Shoring 83
ABC Warfare Defense Ashore: Rescue Operations; Rigging, Breaching Walls, Tunneling 83
The ABC's of Briefing 8
The ADC Fighter Dispersal Program 6
AFLC Zero Defects Story 18
AMVER-Automated Merchant Vessel Reports 80
The AN/TCC-7 System, Part II: Initial Adjustments of Carrier Telephone Terminal 28

B

Bailing Out 91
Ballistic Missile Trajectories 112
Bandaging for Hospital Corpsmen 45
Bar Work: Magnesium. Part I 72
Bar Work: Magnesium. Part II: Setting Up Multiple Roller Turner and Turning a Taper 72
Bar Work: Magnesium. Part III: Necking and Threading by Use of Attachment and by Die Head 72
Bars, Punches and Drifts 128
Base Procurement 19
Basic Autopsy Procedure 47
The Basic Camera 131
Basic Care of the Patient—The Bed Bath 54
Basic Care of Patients—Part I—Cleaning the Patient's Unit and Making an Unoccupied Bed 54
Basic Care of Patients—Part III—Making an Occupied Bed 54
Basic Care of Patients—Part IV—Physical Comforts 54
Basic Care of Patients—Part IX—Postoperative Care 54
Basic Care of Patients—Part V—Feeding the Patient 54
Basic Care of Patients—Part VI—The Enema 54
Basic Care of Patients—Part VII—Sterile Technique 54
Basic Care of Patients—Part VIII—Preoperative Care 54
Basic DC Meter Movement 26
Basic Electricity 26
Basic Electricity: AC Parallel Circuits 26
Basic Electricity: AC Series Circuits 26
Basic Electricity: Capacitance in AC Circuits 26
Basic Electricity: Inductance in AC Circuits 26
Basic Helicopter Flight Principles 9
Basic Hydraulic Governor 75
Basic Layout Tools: Part II 128
Basic Map Reading—Part I—Map Symbols 129
Basic Map Reading—Part II—Grid, Distance and Elevation 128
Basic Map Reading—Part III—Direction, Orientation, and Location Without a Compass 128
Basic Map Reading—Part IV—Direction, Orientation, and Location with a Compass 128
Basic Map Reading—Part V—Photos and Photomaps 129
The Basic Physics of an Atomic Bomb 103
Basic Principles of the Analytical Balance 35
Basic Principles of Power Reactors 100
Basic Telephony 28
Basic Terminology for Rehabilitation Appliances 63
Basic Wheelchair Features and Handling 58
Bathing the Patient: Home Care 54
The Battery, Ignition, and Electrical System 4
Battle for Time 119
The Battle of Leyte 120
Battle Glory 118
The Battle 120
Be Water Wise: Boating 93
Be Water Wise: Swimming 93
Bearing Disassembly and Inspection 74
Bearing Reassembly 74
Bearing Removal and Inspection, 8-268A Engine 75
Bearings 76
Bearings 77
The Beauty and the Grandeur 126
The Beaver Selja Incident 78
The Bed Bath 54
Before the Day 66
Before Saturn 112
A Beginning Without End 98
Behavior Therapy with an Autistic Child 57
Behind the Shop Drawing 125
Bench Work, 8-268A Engine 75
Benchwork, Part I 77
Benchwork, Part II 77
Benchwork, Part III 77
Benchwork, Part IV 77
Bending Oak Techniques 80
Beneath Navy Wings 8
The Best Investment We Ever Made 8
Beta Ray Spectrometer 106
The Bevel Protractor 129
Beveling, Grooving, and Rounding 129
Beveling, Mitering, Rabbeting, and Dadoing 134
Beveling, Stop Chamfering, and Tapering Square Stock 134
Beyond the Stick and Rudder 95
Big The Challenge 111
Big River 116
The Big Wheel 120
Bikini—Radiological Laboratory 96
Biology and Control of the Cockroach 33
The Biology and Control of Domestic Flies 33
Biology and Control of Domestic Mosquitoes 33
Biology and Control of Schistosomiasis in Puerto Rico 47
Biology and Control of Schistosomiasis in Puerto Rico (French) 51
Biology and Control of Schistosomiasis in Puerto Rico (Spanish) 51
Biology of Domestic Flies 33
Biology Plus 116
Biomechanical Principles of Fixed Partial Denture Prosthodontics, Parts I and II 36
The Biosatellite Program—Between the Atom and the Star 114
The Blacksmith: Calculating and Bending Rings and Links 125
The Blacksmith: Calculating and Bending Rings and Links 80
The Blacksmith: Calculating and Forging a Deck Socket Wrench 125
The Blacksmith: Calculating and Forging a Deck Socket Wrench 80
Blanket for Survival 92
Blanking with the Swing Arm Router 14
Blanking with Rotary and High Speed Shears 14
Blanking Sheet Metal on the Squaring Shear 14
Blanking Sheet Metal with Hand Snips 14
Bleaching the Endodontically Treated Discolored Tooth 38
Bleeding and Bandaging 43
Blind Riveting 14
Blood Collection for Pediatric Tests 46
Blood Pressure Readings 34
Blood Pressure Readings 34
Boating Safety "B" 93
Boating Safety, Part C: Safety Equipment 93
Bob Cummings Visits the Air Force Academy with His Son Bob Cummings, Jr. 8
Body Mechanics 54
Boiler Repair, Water Side: Closing the Boiler 77
Boiler Repair, Water Side: Introduction 77
Boiler Repair, Water Side: Removing Boiler Tubes 77
Boiler Repair, Water Side: Replacing Boiler Tubes 77
Boiler Repairs, Fire Side: Building Walls and Floors 77
Boiler Repairs, Fire Side: High Temperature Castable Refractories 77
Boiler Repairs, Fire Side: Installing Plastic Chrome Ore 77
Boiler Repairs, Fire Side: Installing Plastic Fire Brick 77
Bold Decisions 11
Bold New Approach 57
Bonded Thin Concrete Resurfacing 126
Bonus for Puerto Rico 100
Booked for Safekeeping 57
Boring Holes with Offset Boring Head 71
Boring To Close Tolerances 70
Bougainville 121
Boundaries of the Cartoid Triangle 37
Brazing Carbide Tools 125
Breakbone Fever, "Dengue" 33
Breakthrough to Progress 18
Breakthrough—Search for Knowledge 15
Briefly, About Fallout 83
Bring Me Men 65
Broaching an Internal Keyway 69
Bronchiogenic Carcinoma 34
Building a Nation 123
Building for Atomic Energy 97
Buoys and Beacons 97
Burns 43
Bus Care and Maintenance 4
By-Products of Space Research—Selected Examples 114
BMEP 75
BORAX: Construction and Operation of a Boiling Water Reactor 100

C

Cable Surface Wiring 25
The Cadet Honor Code 8
Cadet Wings in Civil Air Patrol 8
Canning Beef 3
Capacitance 26
Capacitance—Part I—Physical and Electrical Characteristics and Factors Affecting Capacitance 29
The Cape Cod Canal Story 116
Cape Kennedy 1964 111
Cape Kennedy 1965 111
Capsizing, Sinkings and Falls Overboard 93
The Capuchino Story 23
Carbide Woodworking Tools: Care and Grinding 125
Carbide Woodworking Tools: How To Use 125
Carburetor, Pricipies of Operation 4
Care and Maintenance of Tapered Roller Bearings 125
Care of a Tractor 3
Care of the Cardiac Patient 54
Care of the Newborn Baby: The Nurse's Role in Instructing the Parents 54
Care of the Patient with Diabetes Mellitus: Complicated 54
Care of the Patient with Diabetes Mellitus: Uncomplicated 54
Care of the Sick and Injured by Hospital Corpsmen—Chain of Asepsis 54
Careers in Oceanography 65
Carotid Triangle 32
Carpentry—Part I—Measuring, Marking and Leveling Tools 126
Carpentry—Part II—Chopping and Driving Tools 126
Carpentry—Part III—Sawing and Boring Tools 126
Carpentry—Part IV—Planing and Chiseling Tools 126
Carrier Action off Korea 119
The Cartoid Triangle 37
The Case of Comrade "T" 88
The Case Method of Instruction—Part I 23
The Case Method of Instruction—Part II 23
The Case Method of Instruction—Part III 23
Catherization of the Paralytic Patient 54
The Cathode Ray Tube: How It Works 29
Cavity Preparation 36
Celestial Guidance for Fighter Pilots 13
Centering Small Stock 125
Centering, Edge Grinding, and Beveling 129
Ceramic Fuel Fabrication Development for PRTR 97
Ceramics in Space 114
The Challenge of the Unknown 114

The Challenge of Ideas 85
The Challenge of Unanswered Questions 113
A Chance To Be Somebody 23
The Chaplain and the Commander 67
Charging and Operating a Cupola 127
Charging Storage Batteries 26
Charlie 56
Charts 79
Checking and Replacing a Float Valve 132
Checking the Electrical System 132
Checking the System: Part I: General Procedure 132
Checking the System: Part II: Trouble Shooting 132
Chemical Lab Safety 91
Chemical Safety in Aerial Application 93
Chemical Techniques: Estimation of Blood Glucose; Folin-Wu and Somogyi Methods 35
Chemical Techniques: Estimation of Blood Glucose; Sunderman-Fuller Method 35
Chemical Techniques: Folding a Filter Paper 35
Chemical Techniques: Protein-Free Filterate; Folin-Wu Method 35
Chemical Techniques: Protein-Free Filterate; Somogyi Method 35
Chemical Techniques: Protein-Free Filterate; Tungstic Acid Method 35
Chick Embryo Techniques 52
Chinese Reds Enter War 119
Chisels 128
Cholera Epidemic in South Vietnam 47
Cholera Today—Bedside Evaluation and Treatment 47
Cholera Today, Part II, Practical Laboratory Diagnosis 63
Cholesterol-Lecithin Flocculation Test for Schistosomiasis 63
Christmas Crisis on the Willamette 116
Chromosome Labeling by Tritium 96
Chronic Bronchitis and Pulmonary Emphysema. The Application of Physical Medicine and Rehabilitation: Part I 60
Chronic Bronchitis and Pulmonary Emphysema. The Application of Physical Medicine and Rehabilitation: Part II 60
Chronic Obstructive Pulmonary Disease: Breathing Patterns 54
Chronic Obstructive Pulmonary Disease: Diaphragmatic Breathing 54
Chronic Obstructive Pulmonary Disease: Intermittent Positive Pressure Breathing 54
Chronic Obstructive Pulmonary Disease: The Use of Oxygen in Physical Terapy Management 54
Chuck Work. Part I: Setting Up Hexagon Turret Tools 72
Chuck Work. Part II: Setting Up Tools for Combined Cuts 72
Circuit Testing with Meters and Multimeters. Part II: Practical Application 28
Circumferential Intracoronal Temporary Immobilization Technique 40
City of Rome Incident 78
Civil Disturbances—Principles of Control 89
Civilian Applications of Nuclear Explosives 98
Clasp Type—Clinical and Laboratory Procedures—Constructing the Occlusal Template—Arrangement of Teeth—Laboratory 41
Clasp Type—Clinical and Laboratory Procedures—Finishing, Occlusal Correction, Insertion and Adjustment 41
Clasp Type—Clinical and Laboratory Procedures—Impression and Preparation of the Master Cast for the Laboratory 41
Clasp Type—Clinical and Laboratory Procedures—Mouth Preparation Procedures 41
Clasp Type—Clinical and Laboratory Procedures—Pre-Delivery, Casting Adjustment—Laboratory Procedure 41
Clasp Type—Clinical and Laboratory Procedures—Preliminary Examination and Procedures for Diagnosis 41
Clasp Type—Clinical and Laboratory Procedures—Preliminary Survey of Study Cast—Tentative Design and Detailed 41
Clasp Type—Clinical and Laboratory Procedures—Recording Edentulous Ridge Contour Correctable Wax Impression 41
Clasp Type—Clinical and Laboratory Procedures—The Occlusal Path Record 41
Clean Air Is a Breeze (Airborne Contamination Control Through Laminar Air Flow) 98
Cleaning Equipment and Containers 43
A Clinical Picture of Anxiety Hysteria 57
A Clinical Picture of Claustrophobia 57
Clinical Tonometry 45
Closure of Antral-Oral Fistula 60
Closure of Antro-Oral Fistula Rotation of Pedicle Palatal Flap 41
The Clouds of Venus 110
The Clutch and Hand Brake 4
Coast Guard in Alaska 122
Coast Guard Auxiliary 94
Coast Guard Cutters around the Continent 121
Coast Guard Icebreakers 122
Coast Guard Lighthouses 77
Coastal Search and Rescue 80
Cobalt-60 Reloading 96
Coccidioidomycosis, Its Epidemiologic and Clinical Aspects 50
The Code and You 89
Cold War Callup: The Navy's Selected Reserve 86
Collection and Processing of Specimens for Respiratory Virus Isolation 47
The Collection of Adult Flies 33
Colony Characteristics of Mycrobacteria in 7H-10 Agar Medium 35
Color Vision Deficiencies: Defination and Evaluation 45
The Columbia—River of Planned Destiny 116
Combat Ready 86
Combative Measures: Judo 90
Combined Resection of Tongue and Floor of Mouth with Radical Neck Dissection 60
Come Sail with Me 65
Command and Control 17
Command of the Seas: Arctic 122
Command of the Seas: Atlantic 118
Command of the Seas: Pacific 119
Command of the Seas: United States 118
The Communicable Disease Center 47
Communication Center Procedure. Part I: Outgoing Messages 28
Communication Center Procedure. Part II: Incoming Messages 28
Communism 85
Communist Blueprint for Conquest 85
Communist Europe 85
Communist Target—Youth 85
The Communist Weapon of Allure 85
Community Fly Control Operations 33
A Community Mental Health Center—The New Way 57
Comparison of Gross Surface Appearance of Intestinal Biopsies and Their Serial Sections 63
The Compass System 77
Complete Dentures: Alginate Impressions 36
Complete Dentures: Remount Procedures 36
Complicated Exodontia, Introduction 36
Compression Molding. Part I: Preparing the Charge and Loading the Mold 131
Compression Molding. Part II: Molding a Simple Part 131
Constructing a Sanitary Pit Privy 43
Constructing a Typical Household System 43
Construction of an Offshore Light Station 75
Construction of the Argonne Research Reactor 105
Construction of the Experimental Boiling Water Reactor 105
The Construction of Diesel Engines 75
Construction of Five Unit Bridge Part I—Abutment Preparation 39
Construction of Five Unit Bridge Part II—Temporary, Bridge, Impressions, Construction of Master Cast 39
Construction of Five Unit Bridge Part III—Wax-Up of Bridge Using a Cone Technique to Develop a Harmonious Occlusal 39
Contact—Ambush 120
Contiguous Osseous Tissue Autograft in Peridontics 40
Contour Face Milling 71
Contract Negotiation Techniques 17
Control of Air Pollution 43
Controlling Records Fires with High Expansion Foam 106
Conversion from Black Oil to Diesel Fuel: Navy Improved Method 79
Conversion from Black Oil to Gasoline: Navy Chemical Method 79
The Cooling System and Fuel System 4
The Coppersmith: Flaring and Reducing 80
The Coppersmith: Working Out Branches from a Line 80
Corpsman 53
Cost Reduction—Everybody's Job 18
Cost Reduction Is a Money Splendered Thing 18
Countersinking, Counterboring, and Spotfacing 69
Counting Whole Body Radioactivity 96
County Fair 123
Crane Operations: Floating Cranes 18
Crane Operations: Safety Precautions 18
Cricothyroidotomy 60
Crossing at Night 78
Crossing Steam Vessels 78
Crossover 123
Crosswind Technique for a Conventional Geared Fixed Wing Aircraft 95
Cruising the Northern Seas 122
Crutch Balancing for the Paraplegic Patient 58
The Cry for Help 57
Cummings City: Military Assistance in Civil Disaster 83
Current and Electromotive Force 26
Current Flow, What It Is 26
Current Methods in Plutonium Fuel Fabrication 97
Cutting a Dovetail Taper Slide 72
Cutting a Keyway on End of a Finished Shaft 72
Cutting a Round End Keyway 73
Cutting a Short Rack 71
Cutting a Taper with the Compound Rest and with a Taper Attachment 70
Cutting an External Acme Thread 70
Cutting an External National Fine Thread 70
Cutting an Internal Acme Thread 70
Cutting an Internal Taper Pipe Thread 70
Cutting and Boning a Forequarter of Beef 3
Cutting and Boning a Hindquarter of Beef 3
Cutting with Carbide Tools. Part I: Single Point 125
Cutting with Carbide Tools. Part II: Milling Cutters 125
Cutting Cove Molding and a Corebox 134
Cutting Grooves with Circular Saw Blades 134
Cutting Keyways 70
Cutting Teeth on a Worm Gear 71
Cutting Tenons and Segments 134
Cutting Threads with Taps and Dies 125
Cycle Logic—Cycle Safety 92
Cylinder Head 74
Cylinder Head and Piston 74
Cylinder Head Removal 76

D

D.C. Motor. Part I: Mechanical Overhaul 25
D.C. Motor. Part II: Rewinding 25
D-Day Convoy 121
The Daily Enemy 88
Damage Control—Plastic Repairs 131
Damage Control: Civilian-Manned Ships 79
Dance Little Children 47
Danger: Stacked Deck 92
Data for Service Test Evaluation of Army Air Defense Systems 86
The Day That Made a Difference 83
The Day Tomorrow Began 100
Day Without End—Duties of a Civil Defense Director 83
Day's Work of a Navigator at Sea 77
Day's Work of a Navigator in Pilot Waters 77
Dead Reckoning: Air 13
Dead Reckoning: Plotting, and Celestial Lines of Position 77
Debridement. Part 1: Multiple Soft Tissue Wounds 60
Debridement. Part 2: Wounds of the Extremities 60
Debrief: Apollo 8 112
Decision for Leadership 8
Deep Sea Diving: The Diving Dress 74
Deep Sea Diving: The Technique of Diving 74
Deep Sea Survival 16
Defense of Antwerp Against the V-1 121
Defense Against the Spy 88
Defense Procurement—Competitive Negotiation 17
Defense Procurement—Contract Administration 17
Defense Procurement—Formal Advertising 17
The Demonstration Story 50
Demonstrations in Perception 47
Denison Hydraulic Pumps and Motors—Disassembly 75
Density Altitudes 95
Dental Activities, Walter Reed Army Medical Center 36
The Dental Assistant: A Career of Service 36
Dental Assistants, Their Effective Utilization 36
Dental Care for Chronically Ill and Aged 36
Dental First Aid 36
Dental Health and Oral Hygiene 36
Derivation of Pascal's Law. Part 1 109
Derivation of Pascal's Law. Part 2 109
Desalting the Seas 98
Descriptive Geometry: Finding the Line of Intersection of Two Solids 22
Design for Environment 15
Design for Survival 18
Designing a Pattern for a Water-Cooled Motor Block 130
Designing Core Boxes for a Water-Cooled Motor Block 130
Destination: Where? 113

Detection of C. Botulinum in Food—Part I: Preparation of Food Samples and Direct Cultures ... 48
Detection of C. Botulinum in Food—Part II: Mouse Toxin—Neutralization Test ... 48
Detection of C. Botulinum in Food—Part III: Isolation from Mixed Culture ... 48
Detection of Enteropathogenic Escherichia Coli ... 63
Determination of Types of C. Diptheriae ... 48
Developing the Negative ... 131
Developing Cooperation ... 67
Developing Homogeneous Reactors ... 105
Development and Fabrication of HFIR Target Elements ... 103
Development of the Human Gastrointestinal Tract ... 63
Dew Line ... 86
Diagnosis and Case Selection ... 38
Diagnosis and Therapy with Radiation ... 96
Diary of a Sergeant ... 58
Diesel Engine Fuel Systems ... 76
Diesel Engine Governors. Part I: Woodward Governors ... 76
Diessel Engine Governors. Part II: GM Series 71, Limiting Speed Mechanical Governors ... 76
The Diesel Engine ... 76
The Diesel Engine: Scavenging and Supercharging Diesel Engines ... 76
Diesel Lubrication and Cooling Systems ... 76
Diesel Lubrication and Cooling Systems: Lubrication of the GM-71 Series Engines ... 76
Digital Computer Technique: Computer Logic ... 17
Digital Computer Technique: Introduction ... 17
Digital Computer Techniques: Computer Logic Symbology ... 17
Digital Computer Techniques: Computer Units ... 17
Digital Computer Techniques: Logic Element Circuits ... 17
Digital Computer Techniques: Programming ... 17
Dimpling and Countersinking ... 14
The Diode: Principles and Applications ... 30
Direct Current Controllers ... 25
Direct Current Generators: Theory of Operation ... 26
Direct Current Motors: Theory of Operation ... 26
Disassembly ... 77
Disassembly of the 8-268A Engine ... 75
Disassembly, Part I ... 74
Disassembly, Part II ... 74
Disaster Aid: Public Health Aspects ... 83
Disaster Feeding ... 83
Discipline and Self-Control ... 23
Discipline: Giving Orders ... 67
Discipline: Reprimanding ... 67
Dispersion Theory Approach to Nucleon-Nucleon Scattering ... 103
The Distant Drummer: A Movable Scene ... 32
The Distant Drummer: Bridge from Noplace ... 32
The Distant Drummer: Flowers of Darkness ... 32
Ditching Techniques for Transport Aircraft: Communications, Sea Evaluation, Headings, and Landings ... 16
Ditching Techniques for Transport Aircraft: Preparation and Evacuation for Aircrew ... 16
Docking with Keel and Bilge Blocks ... 80
The Dolphins That Joined the Navy ... 78
Doorway to Tomorrow ... 111
Doppler Navigation System AN/ASN-64 Operation ... 13
Double Raw Vertical Surface Broaching ... 69
Drafts and Slings ... 18
The Dream That Wouldn't Down ... 110
Dresden Nuclear Power Station ... 100
The Drill Press ... 69
Drilling a Hole in a Pin ... 69
Drilling a Well by the Percussion Method ... 43
Drilling and Tapping Cast Steel ... 70
Drilling in Metal, Wood, and Plastics ... 70
Drilling to a Layout and Spotfacing Cast Iron ... 70
Drilling with Portable Drill Motors ... 14
Drilling, Boring, and Reaming Work Held in Chuck ... 70
Drilling, Tapping, Sub-Boring, and Reaming ... 71
Driving and Bucking Rivets ... 14
Driving the Semi-Trailer ... 4
Drownproofing: Safety and Survival Techniques for Swimmers and Non-Swimmers ... 94
Dual-Drum Paver Productivity ... 126
Dynamics of Occlusion—Mandibular Teeth ... 39
Dynamics of Occlusion—Maxillary Teeth ... 39
Dynamics of Occlusion—Nomenclature ... 39
Dynamics of Occlusion—Occlusal Adjustment of Natural Dentition by Selective Grinding ... 39
The DOD Joint Parachute Test Facility ... 15

E

Ear, Nose and Throat Treatments ... 54
Earliest Clinical Signs of Intra-Oral Malignancies ... 34
The Earth ... 78
Eaton Agent Pneumonia ... 51
Effective Briefing ... 18
Effective Writing ... 24
The Effects of the Ionosphere on Radio Wave Propagation ... 30
Effects of Air Pollution ... 43
Effects of Atomic Bomb Explosions ... 103
Eggs and Miracidia of Schistosoma Mansoni ... 51
The 8 MM Film: Its Emerging Role in Education ... 23
The Eighth Mission ... 80
The 82nd Airborne Division ... 121
Electric Power Generation in Space ... 113
Electric Propulsion ... 113
Electrical Circuit Faults ... 25
Electromagnetic Cathode Ray Tube: Theory of Operation ... 30
Electromagnetic Interference Ashore ... 28
Electromagnets ... 26
The Electron Theory ... 30
The Electron, An Introduction ... 30
Electronic Functional Modules ... 29
Electronics—Special Circuits and Devices—Free Running Blocking Oscillator Circuit—Operation ... 29
Electronics—Special Circuits and Devices—Triggered Blocking Oscillator Circuit—Operation ... 29
Electronics—Special Circuits and Devices—Waveguides ... 29
Elementary Optics in Photography ... 131
Elements of Electricity ... 26
Elements of Hardening ... 129
Elements of Surface Hardening ... 129
Elements of Tempering, Normalizing and Annealing ... 129
Elevation Activities of the Paraplegic Patient ... 58
Elimination of a Shallow Infrabony Pocket by Retromolar Area ... 40
Elimination of a Shallow Infrabony Pocket in Retromolar Area by Ostectomy ... 40
Embryonated Egg Techniques—Part I: Innoculation ... 52
Embryonated Egg Techniques—Part II: Harvesting ... 52
Emergency Childbirth ... 43
Emergency Medical Care—Control of Bleeding ... 43
Emergency Medical Care—Shock ... 43
Emergency Medical Treatment Unit: Phase I ... 53
Emmy Immunization ... 63
Employing Blind Workers in Industry ... 66
Employing Disabled Workers in Industry ... 66
The Empty Lot ... 68
Endfeed Grinding a Tapered Pin ... 69
Endodontic Therapy, Nonsurgical Approach ... 38
Enemas ... 54
Enemy in Your Home ... 52
The Enemy Agent and You ... 88
The Engine Assembly ... 4
Engine Reassembly, Part I ... 74
Engine Reassembly, Part II ... 74
Engine Reassembly, Part III ... 74
Engine Tests and Tune Up ... 4
The Engineered Performance Standards Program ... 19
Engineering Data Management ... 17
Engineering Documentation for Uniform Requirements ... 19
Engineering Test Reactor (Long Version) ... 105
Engineering Test Reactor (Short Version) ... 105
Enucleation of a Mandibular Radicular Cyst ... 42
Environmental Factors Affecting Reliability of Electronic Equipment ... 29
Environmental Testing at Sandia ... 111
Environmental Testing at White Sands Missile Range ... 102
Enzyme-Assisted Cataract Surgery ... 60
An Epidemic of Histoplasmosis ... 50
The Epidemiology of Influenza ... 52
Epidemiology of Murine Typhus ... 51
Epidemiology of Salmonellosis in Man and Animals ... 48
Epidemiology of Staphylococcal Infections ... 48
Equilibration of Occlusion ... 36
Erthyrocyte Transketolase Activity ... 50
Erythrocytic Stages of Plasmodium Vivax ... 48
Escape and Survival System ... 16
Establishing Construction Lines, Part I ... 80
Establishing Construction Lines, Part II ... 80
Establishing Primary Survey Control Points ... 128
Establishing Working Relations for the Disabled Worker ... 66
Every Minute Counts ... 67
Evidence in Courts-Martial: General Rules of Evidence ... 89
Excystation and Motility of Endamoeba Histolytica ... 51
Executive Check ... 8
Exercise Desert Strike ... 86
Exercises to Mobilize the Shoulder ... 59
Expedients ... 18
The Experimental Boiling Water Reactor ... 105
Experimental Breeder Reactor 1, Mark 3 ... 100
Experimental Diving Unit—Evaluation of Physical Fitness by the Step-Up Test ... 74
Experiments in Controlling Brush Fires with Detergent Foam ... 106
Extra Dividends ... 116
Extra-Oral Parallel Pin Procedure ... 38
Extracorporeal Irradiation of Blood and Lymph ... 96
Extraction of Mandibular Teeth (Surgical Preparation) ... 42
Extraction of Maxillary Teeth (Surgical Preparation) ... 42
Eye Treatments ... 45
EBR-I Core Disassembly After Meltdown ... 97
EBR-II Fuel Facility ... 97

F

F-84F Combat Crew Training, Luke Air Force Base ... 7
Fabrication of the Accelerator Structure ... 103
Fabrication of Plutonium Disks ... 97
Fabrication of Research Reactor Fuel Elements ... 98
Fabrication of SNAP-7D Fuel Sources ... 95
Face of a Nation ... 86
The Face of Disaster ... 83
Face Milling with a Fixture ... 71
Face Planing Uneven Surfaces ... 134
Face Turning a Collar ... 134
Facing, Turning, Boring, Grooving, and Chamfering ... 72
Fallout Protection for Hospitals ... 58
The Famous Third Army ... 121
Farm Fresh to You ... 93
Fast Reactor Development ... 105
Fast Reactor Program ... 100
Feeding the Patient ... 55
Fiberscope Endoscopy of the Upper Digestive Tract ... 61
Field Recognition of Domestic Rat Signs ... 63
Field Recognition of Mosquito Larvae ... 63
The Fifth Fuel ... 108
A Fifty-Fifty Chance ... 48
The Fight for the Sky ... 11
Fighter Photo, Eyes of the Fleet ... 131
The Fighting First ... 121
A Fighting Lady Speaks ... 11
Filariasis in British Guiana ... 48
Files and Filing: Part IV ... 128
Filing ... 125
Filing an Internal Irregular Shape ... 71
Filing Template Metal ... 14
Filling the Root Canal ... 38
Film Processor, LH-38—Maintenance ... 131
Film Processor, LH-38—Operation and Maintenance ... 131
Film Processor, LH-38—Quality Control ... 131
Final Mandibular Impressions for Complete Dentures ... 38
Final Maxillary Impressions for Complete Dentures ... 38
Fine Grinding ... 129
Fine Grinding and Polishing ... 129
Finish Forming by Hand ... 14
Finishing Molded Parts ... 131
Fire Fighting in the Nuclear Age ... 106
Fire Loss Management, Part II: Computer Installations ... 106
Fire: Artillery Action in Korea ... 119
Firefighting Aboard Tankers ... 94
First on Target ... 86
First Aid for All Hands ... 45
First Aid for All Hands: Asphyxia ... 45
First Aid for All Hands: Bleeding ... 45
First Aid for All Hands: Burns ... 46
First Aid for All Hands: Fractures ... 46

First Aid for All Hands: Handling and Transporting 46
First Aid for Bleeding 46
First Aid for Burns 46
First Aid for Fractures: Introduction 46
First Aid for Fractures: Skull, Spine, and Pelvis 46
First Aid for Fractures: The Thomas Leg Splint 46
First Aid for Fractures: The Triangular Arm Splint 46
First Aid for Fractures: The Universal Leg Splint 46
First Aid for Heat Stroke and Heat Exhaustion 46
First Aid Handling and Transporting of the Injured: Introduction 46
First Aid Handling and Transporting of the Injured: Lifelines, Improvised Stretchers, and Carriers 46
First Aid Handling and Transporting of the Injured: Mastering Basic Techniques 46
First Aid. Part IV: Rusiscitation, Mouth-to-Mouth, Mouth-to-Nose 45
First Aid—Part III—Burns 45
First Chemical Separation of Lawrencium 103
The First Forty Days 119
First Impressions 67
First Reactor in Space...SNAP 10A 95
The First Soft Step 112
Fitting and Installing a Section of Pipe Aboard Ship 81
Fitting and Installing Packing 81
Fitting and Scraping Small Bearings 125
The Five Days of Betsy 83
Fixed Gages 129
Fixed Wing Primary Flight Training—Pt. I—Introduction to Flight 7
Fixed Wing Primary Flight Training—Pt. IV—Forced Landings 7
Fixed Wing Primary Flight Training—Pt. VII—Directional Control 7
The Fleet That Came to Stay 121
Fleets in Being 186
Flexion Exercises in the Management of Low-Back Mechanical Disorders 32
The Flight of Apollo 7 110
The Flight of Faith 7 113
Flight Through Instruments: Basic Instrument Flying 7
Flight to Tomorrow 114
Flight Line Safety 92
Flight Training: Before You Fly 7
Flight Training: Crosswind Approaches, Landings, and Take-Offs 7
Flight Training: Emergencies 7
Flight Training: Fundamentals of Formation Flying, Three Plane and Four Plane 7
Flight Training: Small Fields 7
Flight Training: Take-Offs, Approaches, and Landings 7
Flight Training: The Barrel Roll 7
Flight Training: The Wingover Roll 7
Flight Training: Wingovers and Chandelles 7
Floating Drydocks: Careening the YFD-8 78
Floating Fortress 119
Flocculation Test for Parasitic Disease 51
The Flow Process Chart and How to Use It 19
Flue Gas Analysis (Orsat Apparatus) 116
The Fluid Coupling, Principles of Operation 4
Flurometric Determination of Serum Phenylalanine (Short Method) Part I 56
Flurometric Determination of Serum Phenylalanine (Short Method) Part II 56
Flurometric Determination of Serum Phenylalanine, Part I, Preparation of Reagents and Standard 56
Flurometric Determination of Serum Phenylalanine, Part II, Procedure 56
Flurometric Determination of Serum Tyrosine, Part I, Preparation of Reagents 56
Flurometric Determination of Serum Tyrosine, Part II, Procedure 56
Fly Control Through Basic Sanitation 33
Fly Density Surveys by the Grill Method 33
Flying in a Pressure Cabin 13
Flying Brothers 8
Flying Soldiers 86
Food for Space Travellers 114
Food Preparation 43
Footprints in the Sea 108
For Children, Because We Care 36
For Thou Art with Me 120
Force in Readiness 86
Forces in Reserve 86
Foreign Language Learning in Our Schools: A Report on Results Achieved by Starting in the Elementary School 22
Foreign Language Teacher Training—Audio-Lingual Techniques for Teaching Foreign Languages 22
Foreign Objects Damage to Army Aircraft 92
Forge Welding 3
Forging with a Hand Forge 3
Formalin-Ether Sedimentation Technique 51
Forming on a Hand Operated Brake 14
Forming on Rotary Machines 14
Forming with a Drop Hammer 14
Forming with Rubber on the Hydraulic Press 14
Foundations and Concrete 126
Four Children 122
The Four Days of Gemini 4 111
Fracture, Middle Third of Face Open Reduction and Fixation with Frontozygomatic Wiring 42
Fractures and Splinting 43
Fractures of the Femur About the Hip Joint 32
Fractures of the Head and Shaft of the Humerus 32
Fractures of the Leg and Ankle Joint 32
Fractures of the Shaft of the Femur 32
Fractures of the Shaft of the Radius and Ulna 32
Fractures About the Elbow 32
Fractures About the Knee 32
Fractures About the Wrist and Hand 32
Framing: Floor Joists and Walls 126
Framing: Hip and Valley Rafters 126
Framing: Rafter Principles and Common Rafters 126
Free Osseous Tissue Autograft To Eliminate an Infrabony Pocket 40
Freedom and You 85
Freedom 7 113
Frequency Modulation—Part I—Basic Principles 30
The Fresher the Better 98
Friendship 7 113
From Where I Sit 123
Front Line of the Battle 33
Fuel Element Burning Experiment 106
Fuel Pump Disassembly 74
Fuel Pump Reconditioning and Reassembly 74
Full Blade 120
Functional Teaching in Electricity and Electronics 23
Fundamental Lines and Sections 81
Fundamentals of Carrier Telephony. Part I: Operation of a Carrier System 28
Fundamentals of Carrier Telephony. Part II: Terminals and Repeaters 28
Fundamentals of End Cutting Tools 125
Fundamentals of Filing 125
Fundamentals of Radioactivity 104
Fundamentals of Side Cutting Tools 125
Fundamentals of Stair Layout 126
Fundametals of Mechanical Vibration 97
Fury in the Pacific 121
Fusion Research 103

G

"G" Facts 109
Gage Blocks and Accessories 129
Gail's Awakening 39
Gait Training of the Paraplegic 59
Gas Cooled Reactor Experiment 100
Gaseous Diffusion 108
Gateway to Mid-America 116
General Motors Diesel Engine Unit Injectors: Disassembly and Reassembly, Model 278 76
General Motors Diesel Engine Unit Injectors: Maintenance 76
The Gentle Hand 123
Germfree Animals in Medical Research 62
Getting Through 32
The Gift You Bring 47
The Gingival Autograft in Peridontics 40
Gingivectomy 36
The Gingivectomy Procedure To Eliminate Suprabony Pockets 40
Glucose Method, Auto Analyzer 63
Glucose Method: Glucose Oxidase, Part I; Procedures 63
Glucose Method: Glucose Oxidase, Part II; Preparation of Reagents and Primary Standards 63
Glucose Method: Nelson Somogyi, Part I; Preparation of Protein-Free Filtrate 63
Glucose Method: Nelson Somogyi, Part II; Color Reaction 63
Glucose Method: Nelson Somogyi, Part III; Preparation of Reagents and Primary Standards 63
Glucose Method: Ortho-Toluidine 63
Great is the House of the Sun 110
Greece 123
Greyhounds of the Sea 118
Grid Navigation: Application of Theory 13
Grid Navigation: Introduction and Theory 13
Grinding a Deep Hole 71
Grinding a Parallel Bar. Part I: Setting Up the Machine 72
Grinding a Parallel Bar. Part II: Grinding Operations 72
Grinding a Plain Pin. Part I: The Grinding Wheel 69
Grinding a Plain Pin. Part II: Grinding Operations 69
Grinding a Slender Shaft with Back Rest 69
Grinding a Straight Hole 71
Grinding a Taper 69
Grinding a Template 72
Grinding a V Block 72
Grinding and Facing a Blind Hole 71
Grinding Multiple-Point Carbide Tools 126
Grinding Single-Point Carbide Tools 126
Grinding Thin Discs 72
Griscom-Russell: How It Works, Part I 133
Griscom-Russell: How It Works, Part II 133
Gross Radioactivity Analysis of Water 35
Ground Aids to Air Navigation: Ship to Ship 13
Ground Controlled Approach of Aircraft: Operational Procedure 13
Ground Controlled Approach Equipment: Alignment of AN/CPN-4A 13
Ground Controlled Approach Equipment: Siting 13
Ground Handling of Aircraft in Cold Weather—Taxiing, Towing and Securing 7
Ground Safety on the Flight Line. Part I 92
Ground Safety on the Flight Line. Part II 92
Ground Ways 81
Growth into Leadership at the United States Air Force Academy 65
Guard of the Sky: The NORAD Story 86
Guarding Against Sabotage 88
The Guaymas Story 111
The Guided Bend Test 133
Guillotine Amputation of the Lower Extremity 61
The Gyroscope and Gravitation 109

H

Hacksaws 128
Hacksaws: Part III 128
The Halifax Incident 78
Hallam Nuclear Power Facility 100
Hammers 128
Hand Soldering 132
Handle with Care 53
Handling Livestock for Market 3
Hands of Action 43
Handwashing in Patient Care 55
The Hard Ones 110
Hardness Testing: Rockwell 129
Hatch Canopy. Part I: Measuring and Drawing 81
Hatch Canopy. Part II: Layout 81
Hatch Canopy. Part III: Machining and Finishing-Off 81
Hazards in Ground Operation of Jet Aircraft 92
Head Injury, Report of a Battle Casualty 61
Head Start to Confidence 23
The Headbangers 57
Headquarters U.S.A. 118
Health Hazards of Pesticides 43
Healthful Living in Emergencies 43
A Healthier Place to Live 52
A Healthier Place to Live (English) 52
A Healthier Place to Live (Spanish) 52
Heart of the Navy 124
Heart Research News 34
Heat Disorders: General Effects of Heat of Man 56
Heat Treatment of Aluminum, Film I 129
Heat Treatment of Aluminum, Film II 129
Heavy Particle Beams in Medicine 96
Height Gages and Test Indicators 129
Helicopter Maintenance. Part III: Introduction to Power Trains 9

Helicopter Orientation: Introduction to Helicopters 9
Helicopter Orientation: Introduction to Rotary Wing Flight 10
Helicopter Orientation: Operation of the Single Main Rotor Helicopter 10
Helicopter Orientation: The Basic Anatomy of the Helicopter 10
Helicopter Rescue at Sea 16
Helicopter Special Delivery 10
Helicopter: Arctic Operations 9
Helicopter: Emergency Procedures. Part I: Blade Stalls 9
Helicopter: Emergency Procedures. Part II: Emergency Procedures in the H-13 9
Helicopter: Emergency Procedures. Part III: Emergency Procedures in the H-19 9
Helicopter: Emergency Procedures. Part IV: Emergency Procedures in the H-21 10
Helicopter: Mountain Operations 9
Helicopter: Vibrations and Resonance. Part I: Vibrations in the H-13 9
Helicopter: Vibrations and Resonance. Part II: Vibrations in the H-19 9
Helicopter: Vibrations and Resonance. Part III: Vibrations in the H-21 9
Helicopter: Vibrations and Resonance. Part IV: Ground Resonance 9
Hell for Leather 121
Hell on Wheels 121
Help Available 16
Hemagglutination Test for Echinococcosis 51
Hematological Technique for Charging the Hemocytometer 46
Hematological Technique: Collecting Blood Samples 46
Hemimandibulectomy and Immediate Restoration with Acrylic Implant 36
The Hemiparetic Patient; Changing Position in Bed 59
The Hemiparetic Patient: Sitting Up and Lying Down in Bed 55
The Hemiplegic Patient, Part II, Bed Positioning of the Acute Hemiplegic Patient 55
The Hemiplegic Patient, Part III, Evaluation of the Hemiplegic Patient for Standing 55
The Hemiplegic Patient, Part IV, Passive Range of Motion 55
Heritage of Freedom 118
Hi-Valu and You 19
The Hidden Hazards 91
High Activity Waste 106
High Altitude, High Speed, Flight Problems: Physiological Effects 56
High Energy Particle Accelerators 103
The High Energy People 103
High Energy Physics Research 103
High Frequency Soldering 29
High-Temperature Short-Time Pasteurization: Inspection and Testing 43
Highlights of Heart Research 34
Highway Bridge Research 126
Highway Soil Engineering 126
Highways Are for People 20
Histopathological Technique: Processing a Gross Specimen 50
Histoplasmosis—Mason City, Iowa 50
History of the U.S. Navy Hydrographic Office 128
History of the U.S. Navy: The Civil War, Part I 118
History of the U.S. Navy: The Civil War, Part II 118
History of the US. Navy Supply Corps 19
Hobbing a Helical Gear: Two Cuts, Nondifferential Method 70
Hobbing a Spur Gear. Part I: Setting Up the Change Gears 70
Hobbing a Spur Gear. Part II: Setting Up and Hobbing the Work 70
Hobbing a Square Tooth Spline Shaft 70
Hobbing a Worm Gear: Infeed Method 71
Holiday Traffic Safety—Home for the Holidays 92
Holloman: Frontier of the Future 112
The Hollow Coin 88
Homogeneous Reactor Experiment 2 100
Horizontal Pin Splinting for Anterior Teeth 39
Horseshoeing 3
Hospital Food Service Personnel Training. Part I: Introduction 44
Hospital Food Service Personnel Training. Part II: The Individual 44
Hospital Food Service Personnel Training. Part III: Equipment 44
Hospital Food Service Personnel Training. Part IV: Serving Food 44
Hospital Food Service Safety 44
Hospital Housekeeping: Mopping Two Bucket Method 44
Hospital Housekeeping: Wet Pick Up 44
How an Airplane Flies, Parts 1 and 2 95
How an Airplane Flies, Parts 3, 4, 5 and 6 95
How to Observe Nursing Activities. Part I 55
How to Prevent Private Vehicle Accidents 92
How About Billy Wilson? 65
How Magnets Produce Electricity 26
How To Live with an Air Force Contract 17
How To Use Navigational Aids 78
Human Radioactivity Measurements 96
Hurricane Called Betsy 84
Hurricane Hunters 115
The Hydraulic Brake System 4
Hydraulic Controls in the Hydramatic Transmission 5
Hydraulic Steering, Principles of Operation 5
Hydrographic Survey Operations 128
Hydrographic Survey Operations—Hydrographic Control and Sounding Operations 128
Hydrography for Charting: Position Fixing 128
Hydrography for Charting: Sounding and Dragging 128

I

Ice Breaker 122
Iceland 123
Identification of Early Syphilis 48
If I Were You 67
Ignition and Spark Plug 109
Immediate Custom Implant for the Mandible 42
Immediate Maxillary Anterior Acrylic Fixed Bridge Work in the Shop 36
Immediate Post Surgical Prosthetics 61
Impressions for Removable Partial Dentures 36
Improving the Job 67
In the National Interest 22
In Carla's Wake 84
In Honor of Liberty 118
In Vitro Pathogenicity Test for C. Diptheriae 48
In Vitro Toxigenicity Test for C. Diptheriae 48
In-pile Loop Tests of Homogeneous Reactor Materials 100
Incineration 44
Indentation Tonometry Technique in Glaucoma Detection 45
Independent Ambulation and Elevation Activities of the Hemiplegic Patient 59
Indian River 86
Individual and Family Actions on Warning 84
Inductance 30
Industrial Applications of Nuclear Explosives 99
Industrial Applications of Radioisotopes 99
Industrial Defense Surveys—Part I Introduction 88
Industrial Defense Surveys—Part II Conducting the Survey 88
Industrial Hygiene—Right Makes Safe 93
Industrial Medicine in Action: Toxic Chemical Agents 93
Industrial Plant Protection 89
Inert Gas Shielded Arc Welding Machine: Operation and Maintenance 133
Infant and Child Care 43
The Infectious Diarrheas 48
Infectious Hazards in the Laboratory—Safe Use of the Syringe 91
Infectious Hazards of Bacteriological Techniques 91
Infectious Hepatitis—Unwanted Souvenir 44
Infective Larvae of Ancyclostoma Caninum 51
Infective Larvae of Wuchereria Bancrofti 51
Infeed Grinding a Shaft of Two Diameters 69
Infeed Grinding Shouldered Work 69
Influenza Virus Isolation 52
Injection Molding, Part I: Setting up the Press and Molding a Part 131
Injection Molding, Part II: Cleaning and Servicing the Press 131
Injection Nozzle 75
Injector Block Reconditioning and Reassembly 74
Injector Block Removal and Disassembly 74
Injector Block Replacement and Timing 74
The Innocent Party 48
Inside the Cell, Part I: Enzymes in Intracellular Chemistry 35
Inside the Cell, Part II: Regulation of Enzymes 35
Insomnia 57
Inspection and Preparatory Steps 75
Inspection of Minor Assemblies 14
Inspection of Piston 74
Inspection of Plumbing and Piping 13
Inspection of Sheet Metal Parts 14
Inspection, Maintenance, and Operation of Automatic Sprinkler Systems 93
Installation of Cylinder Head 76
Installation of Cylinder Head 76
Installation of Liner and Piston 76
Installing Conduit 25
Installing Surface Metal Raceway 25
Instructing the Blind Worker on the Job 66
Instructing the Disabled Worker on the Job 66
Instructing the Worker on the Job 67
Instructional Television at Pennsylvania State University 23
Instrument Flight Control—Diaphragm Instruments 7
Instrument Flight Control—Gyroscope Instruments—Part II 7
Instrument Flight Control—The Direct Indicating Magnetic Compass 7
Instrument Flying Techniques: Approach Procedures 8
Instrument Flying Techniques: Basic Instruments 7
Instrument Flying Techniques: Take-off and Unusual Altitudes 7
Integrated Landing Aids, Part I 13
Integrated Landing Aids, Part II 13
Intensive Care 55
Intercept 15
Interior and Exterior Trim 126
International Cooperation in Space 111
International Naval Review 124
Interviewing Principles and Techniques 67
The Intestinal Biopsy Capsule 42
Intra-Oral and Pharyngeal Structures and Their Movements 42
Intravenous Administration of Fluids 55
Introducing the New Worker to His Job 67
Introduction to the Fluorescent Treponemal Antibody Test 48
Introduction to Aircraft Flight Instruments 92
Introduction to Analog Computers 97
Introduction to Aphasia 53
Introduction to Army Air Defense Systems 86
Introduction to Automatic Data Processing 17
Introduction to Combat Fatigue: Doctor's Version 53
Introduction to Combat Fatigue: Patient's Version 53
Introduction to Environmental Engineering 75
An Introduction to Hand Tools: Part I 128
Introduction to Highway Hydraulics 126
Introduction to Isokinetic Exercise 63
Introduction to Nursing in a Coronary Care Unit 55
Introduction to Optics 129
Introduction to Preventive Maintenance 4
Introduction to Prolonged Artificial Ventilation 59
Introduction to Respiratory & Cardiac Resuscitation 34
Introduction to Swimming Pool Sanitation 44
Introduction to Underwater Sound 29
An Introduction to Vectors: Coplanar Concurrent Forces 22
Invasion of Crete by the German Army 121
Invasion of Southern France 121
The Invisible Battleground 28
Iodine-131 96
Ionizing Radiation in Humans 96
Isolation & Identification of Beta Hemolytic Streptococci 48
Isolation and Identification of Mycoplasma Pneumonia (Eaton Agent) 48
Isolation of Blastomyces Dermatitidis 50
Isolation of C. Immitis 50
Isolation of Salmonella and Shigella Cultures 48
Isolation Technique 55
Isotopes 104
It Happened in Texas (Hurricane Beulah '67) 84
It Must Be the Neighbors 44
It Pays To Stay Open 8
It's Up to You 36
It's You Against the Problem 113
It's Your Decision 89

J

Jaw Relation Records for Removable Partial Dentures 36
Jets Aboard: Operation of Jet Aircraft Aboard Carriers 8

Job Appeal 63
The John Glenn Story 110
Joining Solid Conductors 25
Jointing an Edge for Gluing: Installing Knives 134
Jointing Edges and Ends 90 Degrees to Face 134
Journey into Medicine 47
Journey Back 59
June Week 9
Jungle Survival 16
The Juntion Transistor 30

K

Keep Clean—Stay Well 48
Keep Clean, Stay Well (English) 52
Keep Clean, Stay Well (Spanish) 52
Keeping Your Car Fit 4
Kinetic Experiment on Water Boilers 106
Kitchen Habits 44
Know Your Air Rescue Service 16
Know Your Car 4
Know Your Clouds 115
Korean Cease Fire Talks 119

L

L.T.A. History: Balloons 15
Laboratory Design for Microbiological Safety 91
Laboratory Diagnosis of Rabies in Animals 52
Laboratory Methods for Airborne Infection. Part 1: The Cloud Chamber 48
Laboratory Methods for Airborne Infection. Part 2: The Henderson Apparatus 48
Laboratory Technique for Darkfield Microscopy 50
Land the Landing Force—The History of Marine Amphibious Operations 118
The Land Beneath the Sea 108
Landbased Helicopter Operations: Functions 10
Landbased Helicopter Operations: Precautions 10
Landing on the Moon 110
Language Instruction at the USAF Academy 22
Laredo to Panama: The Inter-American Highway 21
Laser—Miracles with Light 116
The Later Years of the Woodley's 67
Lateral Neck Superficial Structures 37
Laterally Positioned Flap in Peridontics 40
The Lathe 70
Latin America 123
The Layered Silicone Mold Technique for Processing Dentures 36
Laying Out Small Castings 125
Leatherneck Ambassadors 22
Legacy of Gemini 111
Legal Requirements for Boatmen 78
Leptospirosis 48
Lessons Learned from Aircraft Accidents—Know Your Aircraft 92
Let's Finish the Job 33
Letter from an Airman 65
Levees on the Lower Mississippi 116
License Plate Traffic Survey 126
Life Cycle of Diphyllobothrium Latum 51
Life Cycle of Endamoeba Histolytica in Dysenteric and Non-Dysenteric Amoebiasis 51
Lifeboats Under Gravity Davits: Launching Boats 79
Lifeboats Under Gravity Davits: Recovering Boats 79
Lifting Templates for a Foundation 81
Light from a Black Box 23
Light-Sensitive Materials 109
Lighthouses and Lightships 78
Lights, Running and Anchor 78
Lights, Vessels Being Towed 79
Line-Up of Field Teletypewriter Set EE-98A 28
Line-Up Procedure for Tactical Telephone Carrier Equipment 28
Line-Up Procedures for Tactical Telegraph Carrier Equipment 28
Liner and Piston 76
Link 103
The Link Sextant, Air 78
Liquid Scintillation Counting 96
A Little Extra Work 46
Living in Space—Part I—The Case for Regeneration 112
Living in Space—Part II—Regenerative Processes 112
Living in Space—Part III—A Technology for Spacecraft Design 112
Living with a Gloved Box 106
Living with Limitations 59
Living with Radiation 106
Loads & Loading of General Transport Vehicles 18
Local Civil Defense 84
Locating and Repairing Leaks 132
Locating Holes, Drilling and Tapping in Cast Iron 70
Location of Decks and Compartments 80
Log of Mariner 4 113
Logistic Support Management for Advanced Weapons 86
The Long Cane. Part 1: Indoors 59
The Long Cane. Part 2: Outdoors 59
Long Cone Technique 40
The Long Haul 66
Lost Mixing Time on Dual-Drum Paver 126
Lost Production in Highway Construction 126
Low Level Air Navigation 13
Lrythrocytic Stages of Plasmodium Vivax 13
Lubrication of Electronic Equipment 29
Lumbar Puncture 55
LORAN Duty—A Challenge 29
LSD (Short Version) 32

M

Machining a Cast Iron Rectangular Block 72
Machining a Tool Steel V Block 72
Machining Laminated Plastics 131
Machining Work Held in Chuck: Use of Reference Surfaces 70
Magnetic Cores—Part I—Properties 30
Magnetic Cores, Part II—Basic Circuits 30
Mainstay of the Mails 19
Maintaining the HUP Service Type Helicopter: Rotor Systems and Related Controls 10
Maintaining Good Working Conditions 67
Maintaining Quality Standards 67
Maintaining Workers' Interest 67
Maintenance and Inspection of the Float and Pressure Type Carburetors 13
Maintenance and Repair of Steam Condensers: Circulating Water Side 80
Maintenance Safety in Aviation—Murphy's Law 92
Maintenance Tank Cleaning: Butterworth Method 80
Making a Core Box for a Flanged Pipe Elbow 130
Making a Core Box for a Machine Base 130
Making a Core Box for a Tail Print 130
Making a Five Tuck Splice 14
Making a Hot Bend 81
Making a Matchboard Pattern 130
Making a One-Piece Flat Pattern 130
Making a Pattern for a Flanged Pipe Elbow 130
Making a Pattern for a Machine Molded Steel Globe and Angle Valve 130
Making a Pattern for a Three-Part Mold 130
Making a Pattern with a Horizontal Core 130
Making a Pattern with a Tail Print 130
Making a Pattern with a Vertical Core 130
Making a Pattern Requiring a Cover Core 130
Making a Pattern Requiring Box Construction 130
Making a Pattern Requiring Segmental Construction 130
Making a Pattern Using a Green and a Dry Sand Core 130
Making a Recovery Bed 55
Making a Segmented Pattern 131
Making a Simple Core 127
Making a Wire Template 81
Making a Wrapped and Soldered Splice 132
Making an Unoccupied Bed 55
Making and Repairing Tubing Connections 132
Making the Occupied Bed 55
Making Pattern, Core Boxes, and Assembling Cores for a Water-Cooled Motor Block 131
Malaria Control on Impounded Water 33
Man and the Atom 99
Man and the FBM 86
Man and Radiation 99
Man and Safety—Physical Limitations 91
Man in the Sea 108
Man in Flight 15
The Man with the Torque Wrench 128
Manage Your Career: The U.S. Army Civilian Career Management Program 65
Management of the Leprosy Patient 48
Management of the Tuberosity Area in Peridontics 40
Management of Mass Casualties—Part II—Burns 84
Management of Mass Casualties—Part VI—Sorting 84
Management Concepts for Depot Maintenance 18
Management Concepts of Depot Maintenance 19
Management Improvement: It's Your Business 18
Mandibular Prognathism 36
Manson's Blood Fluke 51
Manual Cutting a Bevel: Freehand 133
Manual Cutting a Shape: Freehand 133
Manual Cutting to a Line: Freehand 133
The Many Faces of Argonne 101
Marine Diesel Engines for Power Boats 76
Marine Gas Turbine Engines: Principles of Operation 76
Marine Gas Turbine Engines: The Boeing 502-10C Engine 76
Marine Gas Turbine Engines: The Solar T-45 Engine 76
Marine Gas-Turbine Engine: Trouble Shooting 76
Marines and Missiles 86
Marsupialization of a Hydatid Cyst of Echinococcus Granulosis in the Liver 51
The Mask 32
Masseter, Temporal Muscles and Temporal Fascia 33
The Mastery of Space 113
Material Handling Methods in U.S. Air Force Depots 18
Material Handling Principles in Transportation 19
Materials Handling Equipment Operation: Gantry Truck and Warehouse Cranes 18
Materials: Key to Progress 15
Mathematics through Discovery 22
Mathematics: Unending Search for Excellence 22
Matrix 37
Mats World-Wide Mission 87
A Matter of Perspective 46
A Matter of Protection 50
Measurements with Light Waves 109
Mechanical Operation of the Model 28 Teletypewriter: Automatic Typer Selecting Mechanism 132
Mechanical Operation of the Model 28 Teletypewriter: Function Mechanism 133
Mechanical Operation of the Model 28 Teletypewriter: Keyboard Transmitting Mechanism 133
Mechanical Operation of the Model 28 Teletypewriter: Type Box Positioning Mechanism 133
Mechanical Packing Aboard Ship 81
Mechanical Preparation of the Root Canal 38
Mechanical Refrigeration: How It Works 132
Mechanisms of the Intrinsic Muscles of the Larynx 60
Medal of Honor—Ace of Aces 12
Medal of Honor—America Strikes Back 12
Medal of Honor—Burning Ploesti Oil 12
Medal of Honor—Heading Home 12
Medal of Honor—One Man Air Force 12
Medal of Honor—Only a Few Returned 12
Medal of Honor—Pacific Ace 12
Medal of Honor—Seven Down 12
Medal of Honor—A Team Man 12
Medal of Honor—Trial by Fire 12
Medal of Honor—With One Hand 12
Medical Aspects of Diving, Part I: The Mechanical Effects of Pressure 74
Medical Aspects of Diving, Part II: Effects of Elevated Partial Pressure of Gases 74
Medical Aspects of High Intensity Noise: Ear Defense 57
Medical Aspects of High Intensity Noise: General Effects 57
Medical Aspects of Nuclear Radiation 58
Medical Civic Action in the Americas—Alas Para la Salud 124
The Medical Effects of the Atomic Bomb Part 1: Physics, Physical Destruction, Casualty Effects 58
The Medical Effects of the Atomic Bomb. Part 2: Pathology and the Clinical Problem 58
Medical Officer Aboard Ship 65
Medical Research Reactor 96
Medical Residency Training at Wilford Hall USAF Hospital 47
Medical Self-Help Series 43
Medical Supply System, U.S. Army—Part I—Organization and Administration 47
Medical Supply System, U.S. Army—Part II—Operations an CONUS and Overseas Installations 47
Medicare 66
Medlars 47
Meeting at Night 79
Meeting Steam Vessels 79
Memorandum on Security 87
Memorandum to Industry 84
Men with Wings 12
Men Encounter Mars 113
The Mental Status Examination 51
Merchant Marine Safety 94
Metal Cutting Chisels: Part VI 128

Meteorology—Fog and Low Ceiling Clouds 115
Meteorology—Fog and Low Ceiling Clouds 115
Meteorology—Ice Formation on Aircraft 115
Meteorology—The Cold Front 115
Meteorology—The Warm Front 115
Method for Rapid Electrophoresis 35
Methods for the Isolation of Salmonella from the Human Food and Animal Feeds 49
Methods for Collecting Capillary Blood for Clinical Chemistry 64
Methods for Obtaining Anaerobiasis 50
Methods of Processing Plastics Materials 131
Micro-Techniques in Serology 49
Microdeformation of Uranium 48
Microfilariae of Wuchereria Bancrofti 51
The Micrometer 129
Microorganisms of Gas Gangrene 49
Microscopic Study and Isolation of C. Diptheriae 49
Microwave Oscillators, Part I—PT I Reflex Klystrons 30
Milestones in Missilery 112
Military Civic Action 124
Military Immunization: General Procedures 50
Military Immunization: Smallpox Vaccination 52
Military Medicine 53
Military Oceanography: Bathythermograph Observations 108
Military Oceanography: Occupying an Oceanographic Station 108
Military Satellite Communications 15
The Military Sea Transportation Service: Cabin Passengers 21
The Military Sea Transportation Service: Introduction 21
The Military Sea Transportation Service: Troop Transportation 21
Milk and Public Health 44
Milling a Circular T-Slot 73
Milling a Foundation 81
Milling a Helical Cutter 73
Milling a Helical Groove 71
Milling a Template 71
The Milling Machine 71
The Milling Machine 71
Mine Forces in Action 87
The Minute Saved 92
Miracida of Schistosoma Japonicum 51
Miracle in the Desert: The Story of Hanford 101
Miracle in Tonga 52
Mirror of America 118
Missile Explosive Device Safety 114
Missile Fules, Propellants and Oxidizers 93
Missile Logistics 87
Missile Safety at Vandenberg Air Force Base 114
Missiles of the Navy 87
Mission Oceanography 108
The Mission Support During Radioactive Fallout: Disaster Control 104
The Mission Support During Radioactive Fallout: Exposure Control 104
The Mission Support During Radioactive Fallout: Fallout Shelter 104
Mississippi Valley Disease: Histoplasmosis 50
Mister! Meet the Future 68
Mobile Yoke 124
Modern Geodetic Surveying 117
Modern Manufacturing—Command Performance 17
Modern Weather: Theory and Structure of Storms: Weather in Various Parts of an Occluded Wave 115
Modification of the Schoenheimer-Sperry Method for Free and Total Cholesterol 35
Modification of Radiation Injury in Mice 96
Moisture Proofing Electrical and Type Connectors 26
Molding a Horizontal Cored Part 127
Molding a Valve Body 127
Molding on a Jolt Roll-Over Pattern Draw Machine 127
Molding on a Jolt Squeeze Machine 127
Molding with a Gated Pattern 127
Molding with a Loose Pattern 127
Molding with a Loose Pattern: Floor 127
Molding with a Split Pattern 127
Molding with a Three-Part Flask 128
Molding Part with Deep Green Sand Core 127
Molding Part Having a Vertical Core 127
Molten Salt Reactor Experiment 100
A Moment in History 111
Mono Lake Project 117
Moods in Safety 92
Moral Responsibility of Safety 92
Mosquito Prevention in Irrigated Areas 33
Mosquito Stages of Plasmodium Falciparum 33
Mosquito Survey Techniques 33
Mobility of Entamoeba Histolytica 50
A Motion Picture History of the Korean War 119
Motor Conduction Velocity Studies in the Median and Ulnar Nerves 53
Motors and Generators, Part I: DC Motors and Generators 25
Motors and Generators, Part II: AC Motors and Generators 25
Mountain and Desert Survival—Desert Survival 16
Mouth Preparation for Removable Partial Dentures 37
Movements of Endamoeba Histolytica 51
Mr. Push-A-Button 87
Mudjacking Concrete Pavement 126
Municipal Sewage Treatment Processes 44
Mutual Aid—The "Us" in Industry 84
Mycological Slide Culture Technique 50
Mycosis Fungoides 34
MATS Deepfreeze Airlift 122
MD—USN 65
MIT Research Reactor 105
MOBIDIC Joins the Field Army 17

N

Naples to Cassino 121
A Nation Builds Under Fire 118
National Library of Medicine 47
The National Naval Medicine Center 47
Nature of Sea Water 108
Nautical Astronomy 78
Naval Aviation and You 9
Naval Aviation—A Personal History—The Weapon Is Conceived 12
Naval Aviation—A Personal History—The Weapon Is Tested 12
Naval Aviation, A Personal History: The Weapon Is Developed 12
Naval Ordnance Laboratory: The N-O-L Story 78
The Naval Preparatory School 22
Naval Research Laboratory Reactor 78
The Naval Research Laboratory Reactor 105
The Naval School of Music 22
Naval Shipyards Serve the Fleet 19
Naval Steam Turbines: How Turbines Work 76
Naval Steam Turbines: Turbine Casualties 76
The Naval Wars with France and Tripoli 118
The Navy and Science 78
Navy Decline, the New Navy, and the War with Spain, 1865-1898 118
The Navy Dental Corps 65
The Navy Frogmen 74
Navy Photography in Intelligence 131
Navy Photography in Science 131
Navy Screen Highlights—Search and Rescue 16
Navy Screen Highlights—Strike from the Sea 120
Navy Standard Swimming Test and Abandoning Ship Drills 80
Neurosurgery—Surgical Management of Spinal Cord Injuries 61
Neurosurgery: Facial Neuralgia 61
Neutron Activation 103
Neutron Diffraction 103
Neutron Image Detector 103
The New Approach—Aerospace Officer of the Future 65
A New Line of Sight 15
A New Look at an Old Planet 111
A New Look at Fog 115
The New Power 100
A New Supervisor Takes a Look at His Job 67
Ngung Lai 124
Niacin-Nitrate Reduction Test 49
A Night on Jackrabbit Mesa 84
Night Piloting, Surface 78
Nightmare for the Bold 92
Non-root Feeding of Plants 97
Non-verbal Communication 57
Normal Heart Sounds and Innocent Heart Murmurs, a Stethoscopic Study: Part I and II 34
Normandy Invasion 121
The Norway Rat, Habits and Characteristics 34
Not by Magic 123
Novel Methods of Fuel Fabrication 98
The Nuclear Navy 118
Nuclear Power for Space—SNAP 9A 95
Nuclear Power in Air Defense Command 100
Nuclear Propulsion in Space 113
Nuclear Reactor Space Power Systems 75
Nuclear Reactors for Space 75
The Nuclear Ship Savannah 100
The Nurse Combats Disease 55
Nurses in the Army 65
Nursing Care of the Sick and Injured 43
Nursing Service in the Navy: The Chief of Nursing Service 65
Nursing Service in the Navy: The Ward Nurse 55
Nutrition Survey: Republic of Colombia 56
Nutrition Survey: Republic of Lebanon 56
NATO Seapower for Peace 87

O

Oak Ridge National Laboratory and Its Scientific Activities 102
Oak Ridge Research Reactor 105
An Object Lesson in Fire Prevention 92
Occupational Therapy Evaluation of the Hemiplegic Patient 64
Occupying a Public Shelter 84
Oceanographic Prediction System 108
Oceanographic Research with the Cousteau Diving Saucer 108
Oceanography-Science for Survival 108
Of Man and Matter 102
Of Wings and Women 12
Off-Site Monitoring of Fallout from Nuclear Tests 91
Ohm's Law 26
The Oil Gear Hydraulic Traversing Mechanism, Principles of Operation 109
Old Glory 119
On the Ice 122
On Foreign Shores 119
On Target 8
On Target 120
Once To Make Ready 84
One Dimension, Two Dimension, Three Dimension, Four 122
One Eye on the Instruments 9
One Force 119
115 Volts; Deadly Shipmate 93
One Week in October 84
Open Fractures 61
Open Reduction and Fixation Fracture of Mandible at the Angle the Submandibular Approach 42
Open Space 122
Open Wire Transposition Systems 28
Operating Experience—Dresden 100
Operating Experience—Hallam 100
Operating Experience—Indian Point 100
Operating Experience—Yankee 101
Operation of Jet Aircraft Engines 95
Operation Blue Jay 127
Operation Crossroads 102
Operation Cue (Revision 1964) 84
Operation Deepfreeze I 122
Operation Greenhouse 102
Operation Head Start 122
Operation Ivy 102
Operation Long Shot 102
Operation Noah 84
Operation Quick Span 124
Operation Sandstone 102
Operation Soldarity 87
Operation Under Fallout 84
Operation Zero-Zero (Project Narrow Gauge) 13
Operations in Sea Ice: Convoy Operations of Sea Ice 122
Operations in Sea Ice: Identification of Sea Ice 122
The Operator and His Job 4
The Operator and Safety 92
Opportunity Unlimited: Friendly Atoms in Industry 99
Optical Inspection Methods. Part I 129
Optical Inspection Methods. Part II 130
Optical Production Methods 19
Oral Administration of Medications 55
Oral Cancer—Extra Oral Examination 38
Oral Cancer—Intra-Oral Examination 38
Oral Hygiene—Swab Your Choppers 37
Oral Prophylactic Techniques 37
Orbiting Solar Observatory 111
Organic Moderated Reactor Experiment 101
Organization and Mechanics of Writing 24
Organization: Key to Air Power 87
Organized Mosquito Control 33
Organizing Free Play 23
Orientation to the Use of Crutches 59
Origin and Synthesis of Plastics Materials 131
Origins of the Motion Picture 119
Oscillators 30
Osseous Surgery in the Maxilla—Part I 40
Osseous Surgery in the Maxilla—Suturing Technique—Part II 40
The Other Passenger 13
The Other Side of the River 117
The Other Vietnam 124
Our Nearest Star 95
An Outbreak of Salmonella Infection 49
An Outbreak of Staphylococcus Intoxication 49

Over Your Signature: Position Classification 18
Overhauling the Carburetor 13
Overtaking at Night 79
Overtaking Situation 79
The Owl Who Gave a Hoot 122
Ox Cell Hemolysin Test for Diagnosis of Infectious Mononucleosis 52
Oxy-Acetylene Welding: Light Metal 133
Oxygen, Nitrogen Generating Plant Distillation Column Control 117
OMRE Fuel Element Removal and Second Core Loading 100

P

Pacific Frontier 87
The Pacific Missile Range 87
The Palatal Flap in Peridontics 40
Panama 123
Pancho 23
Pandora's Easy Open Pop-Top Box 44
Panographic Diagnostic Pathology Radiolucencies—Part I 41
Panographic Diagnostic Pathology Radiolucencies—Part II 41
Panographic Diagnostic Pathology Radiopacities 41
Parachute Development at Sandia 103
Paraplegic Ambulation, Initial Parallel Bar Exercises 59
The Paraplegic Patient; Taking Off a Full Body Brace in Bed 59
The Paraplegic Patient; Putting On a Full Body Brace in a Wheelchair 59
Pararescue—Its Role in the Space Age 16
Parents Are Teachers Too 23
Parotid Gland and Facial Nerve 33
The Parotid Gland and Facial Nerve 37
Partial Dentures: Biomechanics 37
Passengers, Driving Hazards, Safety 92
A Path to Wings—The Air Force ROTC Flight Instruction Program 9
The Pathology of Schistosomiasis 51
Patterns for Health 64
Pedicle Flap from Edentulous Area 40
Penetrating Wounds of the Abdomen 53
Performance Counseling 68
Performance Evaluation 18
The Periodic Check-Up 4
Periodic Functions 22
Peripheral Nerve Surgery, Part I: Sciatic Nerve 61
Persimmon: A Nuclear Physics Experiment 103
Personal Encounter 90
Perspective on Pesticides 64
Pert—Milestone System—Pert Introduction 18
Phantom Pain 57
The Pharynx Topographical Anatomy 37
Photographic Highlights of USAF Activities 114
Photography in the USAF—Scientific Photography at the Air Force Flight Test Center 131
Photography in the USAF: Optical Instrumentation at Vandenberg Air Force Base 114
Physical Fitness for Waves—Makeup from the Neck Down 90
Physical Fitness Program for the United States Navy 90
Physical Fitness Training—Navy Standard Physical Fitness Test 90
Physical Manifestations and Goals of Treatment for the Parkinson Patient 64
The Physical Principles of Radiological Safety 104
Physical Therapy Management of the Pre-and Post-Operative Open Heart Patient 59
Physiology of High Altitude Flying 57
The Pilot and Air Traffic Control 6
Pilot Emergency Escape Survival System of the F/TF-102 16
Piloting, Surface 78
Pinlay Abutments 37
Pioneer on the Columbia 117
Pioneers of the Vertical 114
Pipeline to Tomorrow 15
Piping Fabrication for Shipboard High Temperature Steam Systems: Bending and Installing 81
Piping Fabrication for Shipboard High Temperature Steam Systems: Introduction 81
Piping Fabrication for Shipboard High Temperature Steam Systems: Welding 81
The Piqua Nuclear Power Facility 101
Piston and Liner Removal 76
Pistons and Rods 75
Pitch Buttoning and Blocking 130
A Place To Land 10
Placing the Right Man on the Job 67
Placing Sliding Ways 81
Plague in Sylvatic Areas 49
Plague Control 49
Plain Indexing and Cutting a Spur Gear 71
Plan for Protection 117
A Plane Is Born 15
Plane Sense 13
Planetary Gears, Principles of Operation. Part 1: Single Sets 109
Planetary Gears, Principles of Operation. Part 2: Multiple Sets 109
Planing a Dovetail Slide 72
Planing a Flat Surface 72
Planing Rough Surfaces to Dimensions 134
Planning and Laying Out Work 67
Plant Growth in Compensated Fields 97
Plastic and Reconstruction Surgery of the Hand 61
Plastic Isolators: New Tools for Medical Research 50
Plastic Repair of a Cheek and Lip 61
Plastic Surgery of the Hand 61
Pliers and Screwdrivers 128
Plowshare 99
Plunge Cut Grinding 69
Plutonium Fuel Fabrication for MTR 98
Plutonium Fuel Fabrication, EBR-1, Mark 4 98
Plutonium Metal Preparation 98
Plutonium Recycle 98
The Poetry of Polymers 110
Point of View 23
Point Control of Traffic 21
Polaris to Poseidon 87
Polaris, Blue and Gold 82
Pole Line Construction—Part III—Erecting Poles and Attaching Crossarms 25
Polishing 130
Pontic Preparation—Labial Coutour—Gingival Adaptation 39
Porcelain Protected Surface Wiring 26
Port Preparedness 84
Portrait of Antarctica 122
Portsmouth Story, The 98
A Positive Approach to the Psychiatric Patient 57
Post-Attack World 84
The Postal Source Data System 19
Postoperative Care 55
Postural Drainage; Patient Positioning 55
Poultry Processing Inspection 3
Powder Metallurgy. Part I: Principles and Uses 129
Powder Metallurgy. Part II: Manufacture of Porous Bronze Bearings 129
Power and Promise 101
Power for the Moonship 110
Power Bending Conduit 26
Power Reactor Experience in the United States 101
Power Reactors—USA 101
Power Shovel Productivity 127
Powerhead 76
Practical Procedures of Measurement 104
A Practical View of Syphilis 49
The Practice of Radiological Safety 91
A Pre-Extraction Record of Vertical Dimension Using Plaster Bandage 38
Precast Concrete Bridge 127
Precision Gage Blocks 129
Preface to a Life 57
Preliminary Impressions for Complete Dentures Alginate Method 38
Preoperative Care 55
Preparation and Staining of Fecal Smears for Parasitological Examination 51
Preparation for Docking with Keel and Bilge Blocks 81
Preparation for Stern Launching, DD445 Class 81
Preparation of a Culture Medium 49
Preparation of Pontics for Pin Reception and Lingual Contour 39
Preparation of Primary Mammalian Kidney Cell Cultures 52
Preparation of Sputum Specimens 49
Preparation of Thick and Thin Blood Films 64
Preparing a Cupola for Charging 128
Prepare the Man 65
Preparing Old Buildings for Wiring 127
Prescription O.T. 59
Preservation of Bacteria by Desiccation in Vacuo 49
The Presidency 123
Pressure Systems and Wind 116
Prevention and Control of Staphlococcal Infections 49
Prevention of Heat Casualties 57
Preventive Maintenance of Signal Equipment for Commanders 29
Preventive Medicine: A USAF Team in Action 44
The Price of Survival 43
Primary Pilot Navigation 8
A Primer for Survival, a Fact of Life 85
A Primer for Survival, Fallout 85
Principal Dimensions, Reference Surfaces and Tolerances 125
Principle of Moments 109
Principles of Dry Friction 109
Principles of Fracture Reduction 61
Principles of Gas-Filled Tubes 30
Principles of Gearing: An Introduction 109
Principles of Learning 23
Principles of Lubrication 109
Principles of Operation and Design 44
Principles of Paperwork Management 20
Principles of Paperwork Management: Better Correspondence Practices 20
Principles of Paperwork Management: Managing Your Forms 20
Principles of Paperwork Management: Managing Your Reports 20
Principles of Paperwork Management: Moving the Mail 20
Principles of Paperwork Management: Records Disposal 20
Principles of Refrigeration 132
Principles of Thermal, Fast, and Breeder, Reactors 101
Principles of X-Radiation 41
Printed Circuits and Their Repair 29
Private Pilot 9
Probing Mind 23
Procurement Source Selection 17
The Problem of Hookworm Infection 51
Programmed Instruction and Aphasia Rehabilitation 53
Programmed Instruction: The Development Process 23
Programmed Instruction: The Teacher's Role 23
Programmed Learning in the United States Air Force 23
Progress in Air Traffic Control 6
Project Dugout 99
Project Echo 111
Project Gasbuggy: The Resourceful Atom 99
Project Gnome 99
Project Gnome Technical Report 99
Project Rover 95
Project Salt Vault 105
Project Sedan 99
Project Shoal 102
Project Slush 15
Properties of Radiation 104
The Protected School 84
Psychotheraputic Interviewing: Introduction 58
Psychotheraputic Interviewing: Method of Procedure 58
The Public Health Aspects of Migrant Workers 52
Public Health Aspects of Poultry Processing 44
Public Health Problems in Mass Evacuation 44
Public Works and Public Utilities, Part IV: Work Improvement in Maintenance 67
Public Works and Public Utilities: Control of Corrosion by Cathode Protection; Buried Metal Structures 127
Public Works and Public Utilities: Controlled Maintenance 20
Public Works and Public Utilities: Painting Structures Ashore 127
PERT—Cost 18
PM-1 Nuclear Power Plant 101
PM-3A Nuclear Power Plant—Antarctica 101

Q

The Quadruparetic Patient; Changing Position and Sitting Up in Bed 59
The Quadruparetic Patient; Sitting Balance in Bed 59
The Quadruparetic Patient; Transfer from Bed to Wheelchair Using a Sliding Board 64
Quality Control: A Management Tool 19
Quiet Battle 124
The Quiet Warrior 87
Quieting a Noisy Refrigerator 132

R

R-A-P: Radiological Assistance Program 106
Rabbeting and Shaping an Edge on Straight Stock 134
Rabies Control in the Community 52
Rabies F-A Staining 52
Radar Eyes the Weather, Part A: Fundamentals of Radar Meteorology 116
Radar Eyes the Weather, Part B: Analysis of Severe Weather 116

Radar Refraction and Weather: Airborne Early Warning and Control ... 29
Radar Refraction and Weather: The Radar Coverage Problem ... 29
Radar Refraction and Weather: The Radar Weather Problem ... 29
Radar Refraction and Weather: Why the Weather? ... 29
Radiation and Public Health ... 58
Radiation in Perspective ... 105
Radiation Effects in Chemistry ... 103
Radiation Safety in Nuclear Energy Explorations ... 91
Radio Astronomy Explorer ... 110
Radio Compass Equipment ... 29
The Radio Man Fights ... 28
Radio Relay Equipment AN/TRC-35 and -36—Part IV—System Lineup Procedures ... 29
Radio Sets AN/GRC 3, 4, 5, 6, 7, and 8 ... 29
Radio Shop Techniques ... 29
Radioactive Fallout and Shelter ... 43
Radioactive Waste Disposal ... 44
The Radioisotope: Methodology ... 104
Radioisotopes in Agricultural Research ... 104
Radioisotopes in General Sciences ... 104
Radioisotopes: Safe Servants of Industry ... 99
Radiological Defense ... 85
Radiological Defense in Civilian-Manned Ships ... 104
Radiological Health Laboratory ... 58
Radium Decontamination ... 64
The Range Goes Green ... 112
Ranger IX, Television Pictures of the Moon ... 112
Rapid Frozen Section Technique ... 35
Rat Ectoparasite Control ... 34
Rat Killing ... 34
The Rat Problem ... 34
Ratproofing ... 34
Re-orienting Occlusal Relationships—Part II ... 37
Reach into Space ... 114
Reactor Fuel Processing ... 98
Reactor Safety Research ... 101
Reading a Drawing of a Valve Bonnet ... 125
Reading a Three-View Drawing ... 125
Ready for Edna ... 60
Ready for Sea ... 55
Ready on Ocean Station November ... 80
Ready the Marine Corps Reserve ... 87
Real and Apparent Motions ... 78
Reaming with Straight Hand Reamers ... 125
Reaming with Taper Hand Reamers ... 125
Reassembly of the 8-268A Engine ... 75
Reassembly of Cylinder Head ... 74
Reassembly of Piston ... 74
Reassembly, Part I ... 77
Reassembly, Part II: Head ... 77
Reciprocating Pump Opening for Inspection ... 81
Recognition of Leprosy ... 49
Reconditioning a Cultivator ... 3
Reconditioning a Cylinder with a Portable Boring Bar ... 81
Reconditioning a Grain Drill ... 3
Reconditioning a Mower, Part I: Cutter Bar ... 3
Reconditioning a Mower, Part II: Drive System ... 3
Reconditioning a Two-Bottom Tractor Plow ... 3
Reconditioning the Fuel Pump ... 76
Recreation and Athletics in the Navy ... 90
Recreation Center Operation ... 90
Rectangular Coordinates ... 22
Redesigning a Pattern for Production Purposes ... 131
Reds Launch Spring Offensive ... 120
Reduced Voltage Starters ... 25
Refrigeration—Evacuating and Charging ... 132
Refrigeration—Principles of Mechanical Refrigeration ... 132
Refuse Disposal by Sanitary Landfills ... 44
The Regulation of Atomic Radiation ... 106
Rehab ... 122
Reinforced Plastics, Introduction ... 131
Reinforced Plastics: Inspection and Quality Control ... 131
Reinforced Plastics: Repair of Single Skin Failures ... 131
The Reins of Command—Air Force Communications Service ... 28
Relative Movement, Part I: Relative Movement and Interception ... 78
Relative Movement, Part II: Out and In Search, Relative Wind ... 78
Reliability Engineering: Reliability Testing ... 20
Reliability—Elements of Reliability Prediction ... 20
Reliability—Fundamental Concepts—Part I ... 20
Reliability—Fundamental Concepts—Part II ... 20
Reliability—Part and Parcel ... 20
Reliability—Reliability Testing ... 20
Reliability—Specifications and Reliability Assurance ... 20
Reliability: Statistical Concepts ... 20
Remote Maintenance of Molten Salt Reactors ... 101
Remote Repair and Modification of the HRE—2 Core Vessel ... 101
Removal and Replacement of Main Bearings ... 75
The Removal of Biting Ticks ... 64
Removal of Cylinder Liner ... 75
Removal of Injection Nozzles ... 75
Removal of Pistons ... 75
Removing a Section of Piping Aboard Ship ... 81
Removing and Installing a Compressor or Condenser ... 132
Removing and Installing a Cooling Unit ... 132
Removing Defective Rivets ... 14
Renal Vascular Hypertension: An Approach to Diagnosis and Treatment ... 61
Rendevous 90° South ... 122
Replacement of Abdominal Aorta with Homotransplant ... 61
Replacement of Cylinder Liner ... 75
Replacement of Injection Nozzles ... 75
Replacement of Pistons ... 75
Reprieve ... 35
Repulsion Motor Principles ... 25
Repulsion-Induction Motor: General Overhaul ... 25
Research into Controlled Fusion ... 105
Research Project X-15 ... 114
Research Reactor Safety Device ... 106
Research Reactors—USA ... 105
Reserve Fleet Activation, Introduction ... 87
Reserve Forces in the Military Airlift Command ... 87
Reserve Management in Action ... 20
Respiratory Exercises for the Parkinson Patient ... 59
Response to Disaster ... 117
Response to Mechanical Shock ... 97
Restless River ... 117
Restoration of the NRX Reactor ... 105
Return to Bikini ... 97
Returning from the Moon ... 110
Returns from Space ... 114
Revision and Reamputation of the Lower Extremity ... 61
The Rhesus Monkeys of Santiago Island, Puerto Rico ... 58
Rhythm, Speed, and Accuracy in Hand Sending ... 28
The Riddle ... 32
Rigging Blocks ... 80
Right-of Way for Highways ... 127
Rigid and Swinging Staging ... 80
Rigid Medullary Fixation of Forearm Fractures ... 61
Riot Control Formations ... 89
Ripping and Cross-Cutting ... 134
River Patrol ... 120
The Road to the Wall ... 85
The Roof Rat, Habits and Characteristics ... 34
Room at the Top ... 110
Rotating Magnetic Fields ... 25
Rough Grinding (Flat Surfaces) ... 130
Rough Grinding ... 130
Rough Grinding by Pin-Bar ... 130
Rough Grinding with a Curvature Generator ... 130
Rough Grinding with Vertical Surface Grinder—Flat Surfaces ... 130
Rough Line-Boring ... 71
Rough Turning Between Centers ... 72
Rough-Facing, Boring, and Turning a Shoulder ... 72
Rough-Facing, Turning, and Drilling ... 72
Roughing-In Nonmetallic Sheathed Cable ... 26
The Rubber Dam in Dentistry ... 37
Rules in Fog ... 79
Rules of the Nautical Road: Introduction ... 79
Rules of the Road for Boatmen ... 79
Rules of the Road, International: Restricted Visibility Situations ... 79
Rules of the Road, International: Special Daytime Situations ... 79
Rules of the Road, International: Vessel Crossing, Daytime ... 79
Rules of the Road, International: Vessels Overtaking, Daytime ... 79
Rural Rat Control ... 34
Rx for a River ... 117
Rx for Flight ... 57
Rx Attitude ... 47
Rx: Innovation (French) ... 64
Rx: Innovation (Spanish) ... 64
Rx: Innovation ... 64
The RBS Express ... 87
RCL ... 26
RFD-2 ... 103

S

Safe Driving in Bad Weather, Part I: Light Vehicles ... 92
Safe Driving in Bad Weather, Part II: Trucks and Tractor-Trailers ... 92
Safe Driving in Europe ... 92
Safe Food (English) ... 53
Safe Food (Spanish) ... 53
Safe Food ... 53
Safe Handling of Laboratory Animals ... 62
Safeguarding Defense Information—Why We Need Security ... 89
Safeguarding Military Information ... 89
Safety in the Plowshare Program ... 107
Safety in the Shop ... 93
Safety in Highway Surveying ... 92
Safety in Hospitals ... 92
Safety Experiments with a Boiling Reactor ... 107
Safety On-The-Job at Sea ... 94
Safety Pipetting ... 64
Safety Precautions for Electronics Personnel ... 93
Sam'l and Social Security ... 66
Sample Mounting Techniques, Evaporation ... 35
Sample Mounting Techniques, Filtration ... 35
San Pietro ... 121
Sand and Steel ... 120
Sand Drains ... 127
Sandia Spinoff ... 102
Sanding Flat and Irregular Surfaces ... 134
Sanitary Storage and Collection of Refuse ... 44
Sanitation Techniques in Rat Control ... 34
Sarah Wilson ... 46
Sawing a Reverse Curve and a Bevel Reverse Curve ... 134
Sawing an Internal Irregular Shape ... 71
Sawing with a Jig and Changing Band ... 134
Sawing Template Metal ... 15
The Scar Beneath ... 59
Scatter Radar: Space Research from the Ground ... 116
Schistosomes in the Primary Host ... 51
Sciatic Pain and the Intervertebral Disk ... 61
Science Through Discovery ... 117
Scientist in the Sea ... 108
The Scintillation Camera ... 97
Scramble Two--The Joint Use of Air Defense and Air Traffic Control Facilities ... 6
Scraping Flat Surfaces ... 125
Sea Power in the Pacific ... 121
The Sea River ... 117
Seabee Teams ... 124
Sealab I ... 108
Seapower for Freedom ... 87
Seapower—Plymouth Rock to Polaris ... 87
Search and Rescue Scanning and Sighting Techniques ... 16
Search and Rescue—Pleasure Craft ... 80
Search and Rescue—Visual Aspects of Search and Signalling ... 80
Search for Silence ... 15
Search Operations ... 16
Seas of Infinity ... 110
Seatbelts, Your Life Insurance ... 92
Secondary Survey, Control Points, and Hydrographic Developments ... 128
Sectional Views and Projections, Finish Marks ... 125
Security Man ... 89
Security Through Seapower ... 87
Seizure: The Medical Treatment and Social Problems of Epilepsy ... 53
Self Preservation in Atomic Bomb Attack ... 91
Self: The Mobile Airfield ... 9
Semi-Automatic and Hand Molding of Intricate Parts ... 132
Semi-Immediate Anterior Fixed Partial Denture with Reverse Pin Facing Assembly of Bridge and Delivery to Patient ... 39
Semi-Immediate Anterior Fixed Partial Denture with Reverse Pin Facing Impression Procedure Preparation of the Dies and Waxing Retainers ... 39
Sensory Conduction Studies—Median Nerve ... 64
Sentries of the Sea Lanes ... 78
Series and Parallel Circuits ... 27
Serological Technique: Venipuncture ... 46
Serum Cholesterol Determination ... 35
Servicing Water-Cooled Condensers ... 132
Serving Food ... 44
The Setting of Endemic Schistosomiasis in Puerto Rico ... 52
Setting Up and Machining Bar Stock ... 72
Setup for Face Milling with a Fixture ... 71
Setup for Rough Line-Boring ... 71
The Seventh Fleet ... 119
Seventh Infantry Division ... 121
Shackles for the Giant ... 117
Shades of Gray ... 58
The Shaper ... 72
Shaping After Template and Shaping Curved Edges ... 134
Sharpening a Form Relieved Cutter ... 69
Sharpening a Plain Helical Milling Cutter ... 69
Sharpening a Shell End Mill ... 69

Sharpening a Side Milling Cutter 69
Sharpening an Angular Cutter 69
Sharpening and Tempering Farm Tools 3
Shear-Leach Process for Spent Nuclear Fuels 98
Shelter on a Quiet Street 85
Shield of Freedom 87
Shield Against Invasion 87
Shine the Boot 65
Ship Design for Tomorrow 75
Ship's Blueprints: Basic 81
Shipboard Helicopter Operations: Functions 10
Shipboard Helicopter Operations: Landing and Take-Offs 10
Shipboard Inspection by Medical Department Personnel: Food Preparation 44
Shipboard Inspection by Medical Department Personnel: Food Serving 45
Shipboard Inspection by Medical Department Personnel: Food Storage 45
Shipboard Inspection by Medical Department Personnel: Living and Working Spaces 45
Shipboard Inspection by Medical Department Personnel: Water Supply 45
Shipboard Vibrations. Part I: Fundamental Principles of Vibrating Systems 75
Shipboard Vibrations. Part II: Multi-Mass Systems 75
Shipboard Vibrations. Part III: Vibration, Excitation, and Response 75
Shipboard Vibrations. Part IV: Service Problems and Field Investigation 75
Shipbuilding Skills—Stern Launching—Fore Poppets and Internal Shoring Construction 81
Ships, Men, and Ice 122
Shipyard Fire and Explosion Hazards 93
Shock 43
Shop Safety 93
The Short Way Home 59
Should the Day Ever Come 87
Showdown 58
Signal Generator Operation 29
Signal Soldiers 55
Signals for Missiles 114
Silent Sentinel 88
Silent World, Muffled World 59
A Simple Cup of Tea 124
Simple Foundation. Part I: Layout 81
Simple Foundation. Part II: Duplication and Fabrication 81
Simple Foundation. Part III: Assembly and Installation 81
Simple Method for Tracheal Suction and Bronchoscopy 61
Single Ram Vertical Surface Broaching 69
Single Sideband Radio: Introduction 30
Single-Phase and Polyphase Circuits 25
Sixth Infantry Division 121
Skeletal Fixation by the Stader Splint, Fractures of the OS Calcas 61
Skeletal Fixation by the Stader Splint, Fractures of the Tibia 61
Ski Jump II 122
Skid Correlation Study 127
Sky Tigers 8
Skyward the Great Ships 113
Slanting 85
The Slide Rule: Proportion, Percentage, Squares, and Square Roots 22
The Slide Rule: The "C" and "D" Scales 22
Slinging Load 19
Slow-Speed Flight Characteristics of Swept-Wing Aircraft 15
The Smile and the Sword 89
Snapshot 96
Social Adjustment for the Aphasic Patient 53
The Social Security Story 66
Sodium Reactor Experiment 101
Sodium Reactor Experiment Fabrication 101
Soft Tissue Wounds 61
Solar Eclipse Expedition, 1966 102
Soldering Lugs and Splicing Stranded Conductors 26
The Soldier at Leisure 90
Sonic Boom and You 95
Sonic Boom—Thunder from the Blue Skies 87
Sources of Air Pollution 45
Space in Perspective 113
Space Communications 111
Space Guidance and Control 113
Space Medicine 114
Space Navigation 113
Space Orbits 111
Space Pilot—Aerospace Research Pilot School 112
Space Rendevous 113
Space Spraying of Insecticides 34
A Space To Grow 24
Speaking of Models 117
Special Circumstances 79
Special Lights 79
Special Steering and Sailing Rules 79
The Specialty Knowledge Testing Program 66
Speech Reading 23
Speech Techniques 23
Speed Drop 76
Spert 'I: Reactor Safety Experiments 107
Splenoportography 35
Split Phase Motor: Rewinding 25
Split-Phase Motor Principles 25
Sporocysts and Cercarine of Schistosoma Mansoni 52
Spot Prevention (Measles) 62
Spot Prevention (Measles) 62
Spot Welding 133
Spraying Equipment and Procedures. Part I: Residual Spraying 34
Springboard to Space—The Arnold Center Story 112
Spur Dikes 127
Sputum Collection and Transportation 50
Sputum Digestion and Decontamination with N-acetyl-L-cysteine NaOH 49
Squeeze Riveting: Stationary and Portable Riveters 15
Squirrel-Cage Rotor Principles 25
The Stages of Instruction: Application, Examination and Review or Critique 24
The Stages of Instruction: Preparation 24
The Stages of Instruction: Presentation 24
Staining Blood Films for Detection of Malaria Parasites 64
Stalemate in Korea 120
Standardization 19
Standardization: Engineering Planning 20
Standing Waves on Transmission Lines 30
Star Identification 78
The Statistical Design of Experiments 117
The Steel Rule 129
Steering Wheels, Front and Rear Axles 4
Steps to Recovery: Rehabilitation of the Patient with Pulmonary Tuberculosis 59
Stern Launching, DD445 Class 81
The Stillwell Road 121
Storefront 122
The Story of an Air Force Base 12
The Story of the Black Cats 121
Story of the Great Lakes 119
Story of the Great Rivers 119
The Story of the Military Aircraft Storage and Disposition Center—Desert Bonanza 18
The Story of the U.S. Lake Survey 119
The Story of Air Force Logistics Management—Weapons Go 17
The Story of Naval Aviation 12
The Story of Naval Aviation 12
The Story of Old Glory 119
Stowaway—Part I—Disease and Personal Hygiene 45
Stowaway—Part II—Galley Sanitation 45
Straddle and Surface Milling To Close Tolerance 71
Straddle Milling 71
Straps and Transportation Bridles 19
Strategic Air Command Combat Missile Force 6
Strategy for Peace 88
The Strength of SAC 88
Stretching and Mobilization for the Parkinson Patient 60
Studies in Bacteriology. Part III: Cell Division 35
Studies in Bacteriology: Part 2. Motility 33
A Study of Grain Growth in BeO Using a New Transmitted Light Hot Stage 105
Subandibular and Submental Triangle 33
Submandibular Triangle 37
The Submarine. Part II: Construction 82
The Submarine. Part III: Driving and Surfacing 82
The Submarine. Part IV: Operating Submerged 82
The Submarines 88
The Submental Triangle 37
Sucking Wounds of the Chest 53
Suction Biopsy of the Gastrointestinal Mucosa 64
Suction Socket Artificial Limb 60
Suicide Prevention in Hospitals 58
Suited for Space 112
Supercharging and Fuel Injection 5
Superconducting Magnets 104
Superficial Structures and Boundaries of the Carotid Triangle 33
Supersonic Thunderbirds 8
Supervising Women Workers 67
Supervising Workers on the Job 67
The Supervisor As a Leader, Part I 67
The Supervisor As a Leader, Part II 67
The Supply Manager's Dilemma 19
Support in Emergencies (Riot Control) 89
Surface Sampling for Microorganisms (Rodac Method) 49
Surface Sampling for Microorganisms (Swab Method) 49
Surgical 38
Surgical Anatomy of Thyroid Gland, Trachea, and Larynx 33
Surgical Approaches to the Ankle Joint 61
Surgical Approaches to the Bones of the Foot 61
Surgical Approaches to the Bones of the Wrist 62
Surgical Approaches to the Elbow Joint 62
Surgical Approaches to the Hip Joint 62
Surgical Approaches to the Knee Joint 62
Surgical Approaches to the Scapulohumeral Joint 62
Surgical Approaches to the Spine and Sacroiliac 62
Surgical Approaches to the Sternoclavicular and Acromioclavicular Joints 62
Surgical Excision of Oral Leukoplakia 42
Surgical Excision of Oral Leukoplakia 61
Surgical Reduction of the Maxillary Tuberosity 42
Surgical Removal of Impacted Mandibular Third Molar 42
Surgical Removal of Impacted Maxillary Third Molar 42
A Survey of Refuse Disposal Methods 45
Survival in North Temperate Regions—Living Off the Land 16
Survival Stresses 16
The Svea-Newport Incident 79
Swaging Cable Terminals 15
Swimming for Survival 94
Swinging into Step 60
The Sword and the Shield 85
Synchro Systems, Part I 25
Synchro Systems, Part II 25
SAC Command Post 87
SAC Film Report, No. 3 April 1961 87
SAC Numbered Air Forces—This is the 8th Air Force 87
SAR Mission Coordinator—Search and Rescue 16
The SL-1 Accident, Phase 3 107
The SL-1 Accident, Phases 1 and 2 107
SNAP—3 Operational Tests 95
SNAPTRAN 2/10A Water Immersion Test 96
SPACE PILOT—Aerospace Research Pilot School 112
SPERT Destructive Test-I (On Aluminum, Highly Enriched Plate-Type Core) 105
SRE Core Recovery Following Fuel-Element Damage 107

T

Tactical Air Power 6
Tactical Air -A Force for Peace 88
Tactical Bomber in All-Weather Operations 6
Take 'Er Down 82
Take a Letter, Please 20
Take Safety with You 94
Take That First Step 64
Talking Together 24
Target Nevada 102
Target Within Range: The Key Role of the USAF Navigator 13
Target: Urban Mobility 21
The Taurus-Gulf Trade Incident 79
Teacher-Directed Television Instruction 24
Teachers Aides: A New Opportunity 24
Teaching by Guided Discussion 24
Teaching the Mentally Retarded—A Positive Approach 53
Teaching Crutch Walking 60
Teaching Machines and Programmed Learning 24
Team Work for a Controlled Environment 45
Technique for Propelling Standard Wheelchair by Hemiplegic Patient 55
The Technique of Hand Sending 28
The Techniques of Army News Photography 131
Techniques of Exhaled-Air Artificial Respiration 46
Techniques of Laboratory Diagnosis of Influenza 53
Teletherapy and Brachytherapy 97
Television, a Teaching Assistance, Presenting Patterns of Inter-Institutional and Inter-Regional College Teaching by Television 24
Temporary Plastic Bridges 37
Tempro-Mandibular Joint 37
Tension Testing 109
Ternary Phase Diagram 98
Terradynamic 97
Testing and Individual Therapy for the Aphasic Patient 53
Texas Has a Brand New School 85

Thailand—Where Men Are Free 123
Thanks for the Dinner 39
That Others May Live—The Mission of the Air Rescue Service 16
Theodore Roosevelt, American 119
Theory of the Lead-Acid Storage Battery 27
Theraputic Exercise: Introduction 60
Theraputic Exercise: Orthopedics 60
Theraputic Exercise: Thoracic Surgery 62
Theraputic Uses of Heat and Cold. Part I: Administering Hot Applications 55
Theraputic Uses of Heat and Cold. Part II: Administering Cold Applications 56
There Is a Way (Revised) 6
The Third Challenge 86
32nd Infantry Division 121
36th Infantry Division 121
This is the Code: Absence Offences 89
This is the Code: Conduct Before the Enemy 89
This is the Code: Crimes Against Persons and Property 89
This is the Code: Disrespect, Disobedience and Improper Performance of Duty 89
This is the Code: General Criminal Articles 89
This is the Code: Procedural Articles 89
Thorium—U233 Utilization 101
Though the Earth Be Moved, The Alaskan Earthquake 85
Thousand Mile Miracle 117
Threading Taps and Dies: Part VII 128
Three-Phase Motor. Part I: Preparing To Rewind 25
Three-Phase Motor. Part II:, Rewinding 25
Three-Wire Service Entrance 26
Thrufeed Grinding a Straight Pin, Part I 69
Thrufeed Grinding a Straight Pin, Part II 69
The Thyroid Area 37
Ticket Through the Sound Barrier 115
Ticks and Tick-Borne Diseases 34
Tidal Power 117
Time 78
Time and Tide 91
Time Bomb in the River 117
Time Lapse Study of Antarctic Ice Floes and Tidal Currents 108
Titan, The Underground ICBM 112
To a Foreign Land 66
To Choose the Sea 65
To Hear Again 66
To Labor as One 124
To Open a Door 64
To Speak with Friends 24
Tomorrow's Power—Today 101
Tomorrow's Scientists at Argonne 102
Tornado 116
Total Body Measurement of Natural and Acquired Radioactivity in Man 58
Toward a Free World 124
Toward the Unexplored 12
Towboats A'comin' 117
Tower to the Sky 124
Towing Lights 79
Town of the Times 85
Toxigenicity Test of C. Diptherine 49
The Tracheal Triangle 37
Traditions and Achievements of the Army 119
Trained and Ready 88
Training Aids 24
Training Aids: Classroom Utilization 24
Training Aids: Selection and Planning 24
Training Aids: Slides, Large Drawings, and Transparencies 24
Transcurium Elements: Synthesis, Separation and Research 104
Transfer from Bed to Wheelchair with Assistance 60
Transfer Molding: Molding a Part with Inserts 132
Transferring from Wheelchair to Bed with Maximal Assistance 56
Transferring from Wheelchair to Bed—Affected Side of Patient Next to Bed 56
Transferring from Wheelchair to Bed—Non-Affected Side of Patient Next to Bed 56
Transistors: High Frequency Operation—Amplifiers and Oscillators 30
Transistors: Low Frequency Amplifiers 30
Transistors: Minority Carriers 30
Transistors: P-N Junction Fundamentals 30
Transistors: Servicing Techniques 30
Transistors: Switching 30
Transistors: Triode Fundamentals 30
Transistors: Part IV—Pulse Applications 30
The Transition Piece: Square to Round Layout and Fabrication 82
Transmission Security 28
Transmission, Drive Shaft, and Differential 4
Transportation of the Injured 43
Transportation of the Sick and Wounded 53
Transportation of Radioactive Materials, Part 2: Accidents 107
Trapped (Rescue Work) 91
Traveler Meets Air Traffic Control 6
Treatment of Infrabony Pocket with Three Osseous Walls 40
Treatment of Jaw Fractures 62
Trench Foot 62
Trial Balance 110
The Triode: Amplification 30
A Trip to Where 32
Trip Steel 98
Tropic Seacoast Survival 16
Trouble Shooting Your Car 4
Tube Bending by Hand 15
Tube Tester Operation 29
Tuberculin Testing 50
Tuberculin Testing, Part I. Tuberculins 50
Tuberculin Testing, Part II. Administration Techniques 50
Tuberculosis: Laboratory Aids to Diagnosis and Treatment 50
Tuned Circuits 31
Turboprop/Turboshaft Engines: Introduction 13
Turboprop/Turboshaft Engines: Introduction 109
Turning a Cylinder Between Centers 134
Turning a Taper with the Tailstock Set Over 70
Turning the Tide 120
Turning Taper Work 134
Turning Work in a Chuck 134
Turning Work of Two Diameters 70
Turning Work on a Face Plate 135
Turning Work Held on a Fixture 70
Turning Work Held on a Mandrel 70
The Turret Lathe, an Introduction 72
29th Infantry Division 121
27th Infantry Division 121
The Twenty-sixth Infantry Division 121
Twist Drills: Part V 128
TAC in Action 6
TB Laboratory Procedure. Drug Susceptibility Testing, Part I (Direct Method) 50
TB Laboratory Procedure. Drug Susceptibility Testing, Part II 49
TB Laboratory Procedure. Fluorescent Staining 49
TB Laboratory Procedure, Ziehl-Neelsen Staining 49
TT-47/UG Teletypewriter: General Principles and Operations 28
TT-47/UG Teletypewriter: Installation and Performance Tests 28
TT-47/UG Teletypewriter: Preventive Maintenance 28

U

U.S. Naval Civil Engineering Laboratory 75
The U.S. Naval Test Pilot School 8
U.S. Navy Armored Life Jacket 80
U.S.S. Forrestal (CVA-59) 82
Under Pressure 58
Under Way 101
Underground Nuclear Weapons Testing 102
Understanding the Atom, No. 1: Alpha, Beta, and Gamma 107
Understanding the Atom, No. 10: Radioisotope Applications in Medicine 108
Understanding the Atom, No. 2: Radiation and Matter 107
Understanding the Atom, No. 3: Radiation Detection by Ionization 107
Understanding the Atom, No. 4: Radiation Detection by Scintillation 108
Understanding the Atom, No. 5: Properties of Radiation 107
Understanding the Atom, No. 6: Nuclear Reactions 107
Understanding the Atom, No. 7: Radiological Safety 108
Understanding the Atom, No. 8: Radioisotope Applications in Industry 108
Understanding the Atom, No. 9: Radioisotopes in Biology and Agriculture 108
Understanding the Atom, No.11: The Atom in Physical Science 107
The Unending Struggle 124
The Uniform Code of Military Justice—Summary Court Martial 89
United Nations Campaign in Northeast Korea 120
The United States and Western Europe 124
The United States Air Force in Vietnam 6
United States Arriving 119
The United States Strike Command 88
Universe on a Scratchpad 113
Upper Extremity Prosthetic Principles 62
Upper Extremity Prosthetics 60
The Upper Extremity 62
Uretero-Ileo-Urethral Anastomosis—A Bladder Substitute 62
Use and Care of Fiber Rope 80
Use and Care of Wire Rope 80
Use of the Condom Appliance for the Incontinent Patient 56
Use of the Malleable Mesh in the Reduction and Fixation of Jaw Fractures 42
Use of the Problem in Teaching 24
The Use of Aircraft for Insect Control. Part I: Mosquito Control 34
Use of Anticoagulants in Rodent Control 34
Use of General Surgical Facilities by the Dental Service 37
The Use of Soldering Coppers 132
Use of Turning Frames 56
Using a Boring Bar Between Centers: Work Held on Carriage 70
Using a Follower Rest 70
Using a Portable Spray Gun 15
Using a Shell End Mill 73
Using a Steady Rest 70
Using a Steady Rest When Boring 70
Using Visual Aids in Training 24
UN Counterattack 120
UN Forces Consolidate Below the 38th Parallel 120
UN Forces Cross the 38th Parallel 120
UN Forces Escape Trap 120
UN Forces Move North 120
UN Offensive 120
UN Offensive Continues 120
USAF Air Commandos 124
USAF Calibration Program, The 20
USAF Flight Test School 15
The USAF Maintenance Management Improvement Program 13
USAF Participation in Swift Strike III 88
USAF School for Latin America 22
USAF Sports and Recreation 1964 90
USAFE Highlights 123
USS Nautilus: Operation Sunshine 122

V

Vacuum Tubes: Electron Theory [illegible] the Diode Tube 31
Vacuum Tubes: Triode and Multipurpose Tubes 31
Vallecitos Boiling Water Reactor 105
Value Engineering: More Ships for Less Money 20
Value Engineering: The Hundred Million Dollar Story 18
Vandenberg—Aerospace City 12
Vandenberg: Aerospace Air Force Base 112
Vaned Elbow: Layout and Fabrication 82
Vapor Compression Distilling Units: Chemical Cleaning 133
Vapor Compression Distilling Units: How They Work and How To Operate Them 133
The Varanger-Dora Weems Incident 79
Various Methods of Fixation for the Control of Fractured Jaws 37
Vectors 22
Vehicle Loading and Stowing 19
The Vehicle Maintenance Story 20
Vela Program: Satellite Detection System 102
Venezuelan Equine Encephalitis Epidemic in Columbia 64
Verbal Impairment Associated with Brain Damage 53
Verniers 129
Vibration Problems in the Design of Shipboard Electronic Equipment 78
The Victory Division: 24th Infantry 121
A View of the Sky 112
The Vigil of Jenny Fay 37
Vision in Military Aviation—Illusions 57
Vision in Military Aviation—Sense of Sight 57
Visual Day Signals 79
Visual Flight Rules 13
Visualizing an Object 125
The Vital Link 111
The Vital Signs and Their Interrelation: Body Temperature, Pulse, Respiration, Blood Pressure 56
Vital Signs. Part 1: Cardinal Symptoms 56
Vital Signs. Part 2. Taking Temperature, Pulse, and Respiration 56
Vital Signs. Part 3: Taking Blood Pressure 56
Volt Ohmmeter Operation 29
Volunteers for Head Start 24
Votaic Cell, Dry Cell, and Storage Battery 27
VDRL Tests for Syphilis 50

W

Wake Turbulence 95
War and Advice 124
The War of 1812 119
War of Independence, 1775-1783 119
Warning Star 88
Waste Disposal by Hydraulic Fracturing 107
The Watch on Health 45
Water Masses of the Ocean 109
Water Purification, Introduction 133
Water Purification: Diatomite Filter System, Installation, Operation, and Maintenance 133
Water Purification: Vapor Compression Distillation 133
Watertight Covers. Part I: Layout and Fabrication 82
Watertight Covers. Part II: Assembly 82
A Way Out of the Wilderness 60
Weaponeers of the Deep 66
The Weapons Controller—Key to Effective Air Defense 88
Weapons Ranges—USAF 6
Weather and Radar 116
Weather Eye, The 96
Weathermen of the Sea 116
What Causes Current Flow: EMF 27
What Controls Current Flow: Resistance 27
What Happened to Mooretown 45
What's My Traffic? 6
Wheelchair Transfers for the Paraplegic 64
Where the Action Is 68
While I Run This Race 123
Whistle Signals for Approaching Steam Vessels 79
White Sands Missile Range 112
Who's Handicapped? 66
Who's Too Old 66
"Why Am I Here" 40
Why Calibrate 19
Why Engines Are Governed 109
Wildlife on the Mainstem 117
William Tell—1965 8
Wind and the Navigator: In-Flight Analysis 14
Wind and the Navigator: Jet Streams 14
Wind and the Navigator: Pre-Flight Planning 14
Wind and the Navigator: Wind Theory 14
Winged Victory on Foot: 43rd Infantry Division 121
Wire Rope Terminal Connections 80
Wire Sizes and Voltage Drop 26
Wiring Old Buildings with Armored Cable 26
With the Marines: Chosin to Hungnam 120
With No One to Help Us 122
Wood Preservation: Control of Marine Organisms 135
Wood Preservation: Control of Wood Destroying Organisms 135
Wood Preservation: Effects of Marine Organisms 135
Wood Preservation: Inspection for Wood Destroying Organisms 135
The Wooden Overcoat 107
Working for the U.S.A. 66
Working for Better Public Health Through Recognition of Feelings 58
Working with Other Supervisors 67
Working Together 56
The World at UN Plaza 124
World War I Overseas Fliers Reunion 12
World Wide Naval Operations in Peace and War, 1815-1860 119
The World Within 102
Wound Rotor Controllers 25
Wounds of the Face and Jaw 62
Wounds of the Hand 62
Wrenches 128

X

The X-17 Story 115
X-Ray Inspection 29
X-Ray Spectroscopy—The Inside Story 113
Xenon Tetrafluoride 104

Y

Yankee Do 88
Year of Birth 53
The Year of 53 Weeks—USAF Supersonic Pilot Training 66
A Year Towards Tomorrow 122
You and Medicare 66
You and Your Job 45
You in Japan 123
You Can't Bite Back 91
Young Man River 117
Your Air Force 88
Your Air Weather Service 114
Your Army in Disaster Relief 85
Your Congressman at Work 123
Your Driving Habits 4
Your Legal Status in the Republic of Germany 123
Your National Archives 123
Your Personal Affairs Officer 66

Z

Zero Defects—Right the First Time 18
Zero Power Reactor 3 106
Zip-Code—The Swing Six 20

FILMSTRIP TITLE INDEX

5-030 The Life Cycle of a Malaria Parasite 136
5-043 Vivax Malaria 136
5-073 Hookworm Disease and Hookworm Infection 136
5-078 Chills and Fever: Why? 136
5-079 Fundamentals of Detergents 136
5-081 Sanitary Design in Drinking Fountains 136
5-090 Spread and Prevention of Trichinosis 136
5-095 Worms in Your Muscles 136
5-097 Identification of Some Common Sucking Lice 136
5-113 The Use of Aircraft for Insect Control. Part 1: Mosquito Control 136
5-118 Home Safety and Health Departments 136
5-119 Constructing a Sanitary Pit Privy 136
5-136 Constructing a Farm Pond 136
5-138 Primary Treatment Plants 136
5-140 Sampling and Testing Drinking Water 136
5-153 PVA-Fixative Technique in the Diagnosis of Amebiasis 136
5-155 The Preparation of Hematoxylin Stained Smears for Diagnosis of Intestinal Protozoa 136
5-158 Chemical Precipitation Treatment Plants with Two-Stage Digestion 136
5-159 Trickling Filter Plants 136
5-160 Activated Sludge Plant with Vacuum Filtration and Incineration 137
5-164 Diagnosis of Enterobiasis 137
5-170 Simplified Serologic Identification of Shigella Cultures 137
5-174 Basic Biology of Bacteria 137
F-1 Microdissection Applied to Mosquito Identification 137
F-10a High-Temperature Short-Time Pasteurization: Equipment and Controls 137
F-12 Basic Principles of the Analytical Balance 137
F-20a Epidemiology of Brucellosis (English) 137
F-21a Basic Principles of Refrigeration 137
F-21b Refrigerated Food Storage Principles 137
F-22 Fundamentals of the Human Blood Groups 137
F-34 Collection of Blood Specimens for Serological Examination (English) 137
F-46 The Drilled Well: Sanitary Aspects 137
F-47 The Dug Well: Sanitary Aspects 137
F-81 Collection of Fecal Specimens 137
F-82 Collection of Sputum Specimens (English) 137
F-91 Biology and Control of the Cockroach 137
F-95 Identification of Some Mosquitoes of Public Health Importance 137
F-105 Collection of Specimens from the Eye, Nose, and Throat (English) 137
F-106a GS-1 Meets the Laboratory 137
F-106b Handling and Use of Glassware 138
F-106c Care of Laboratory Animals 138
F-106d Using Animals in the Laboratory 138
F-118 Epizootiology of Anthrax 138
F-119 Disinfection of Clinical Thermometers. Part 1: Oral Thermometers 138
F-132a Filtration Plants (English) 138
F-133 Swimming Pool Sanitation 138
F-140 Transmission of Anthrax, Animal to Man 138
F-145 Arthropods of Public Health Importance 138
F-146a Functioning of Gas Feed Chlorinators. Part I: Visible Vacuum Chlorinator 138
F-146b Functioning of Gas Feed Chlorinators. Part II: Volume Metering Chlorinator 138
F-148e Basic Principles of Kitchen Layout 138
F-148k.1 Food Sanitation. Part I: Construction of Building 138
F-148k.2 Food Sanitation. Part II: Utensils and Equipment 138
F-148k.3 Food Sanitation. Part III: Washing and Storage 138
F-148k.4 Food Sanitation. Part IV: Refrigeration and Food Handling 138
F-165 A Large Water Treatment Plant 138
F-168 Collecting Specimens for Virus Diagnosis 138
F-171 An Introduction to Backsiphonage and Cross Connections (English) 138
F-172 Isolation and Identification of Beta Hemolytic Streptococci 138
F-176 Basic Use of Levels by Sanitarians 138
F-186b Cleaning-In-Place for Pasteurization Plants 139
F-190 Mosquito Larval Habitats 139
SPF-209 A Plant Health Program 139
F-221a Laboratory Diagnosis of Ringworm in Animals. Part 2: Trichophyton Infection 139
F-225 Operation of Hypochlorinators 139
F-229a The Sanitary Landfill. Part 1: Operating Procedures (English) 139
F-229b The Sanitary Landfill. Part 2: Small Community Landfills (English) 139
F-242 A Flocculation Test for Trichinosis 139
F-256 The Collection and Shipment of Insects 139
F-290 Aedes Aegypti Survey Techniques 139
SPF-296 Domestic Vector Control by Basic Sanitation 139
F-298 Use of Anticoagulants in Rodent Control 139
F-340 Introduction to the Insects and Their Allies 139
F-343 Staphylococcal Disease: Manifestations, Prevention and Control 139
F-361 The Nurse—Epidemiologist 139
F-363 Epidemiology of Staphylococcal Infections 139
F-386 The Membrane Filter 139
F-388 Introduction to Tissue Culture Techniques 139
F-399 Listeriosis 139
F-449.1 Filariasis Story in India. Part I: Entomological and Parasitological Aspects of Filariasis in India 139
F-449.2 Filariasis Story in India. Part II: Elephantiasis in India 139
F-449.3 Filariasis Story in India. Part III: Training, Research, and Control Aspects of Filariasis in India 140
F-449.4 Filariasis Story in India. Part IV: Facts about Filariasis and Its Control in India 140
F-675 State-wide Epilepsy Control 140
F-722 Glaucoma Screening—A 3-Minute Test for a Lifetime of Sight 140
F-1470-x Care of the Patient with Hydrocephaly 140
F-1471-x Techniques for Maintenance of Range of Motion 140
F-1472-x Bi-Valve Casts, Their Construction and Application 140
F-1584X Growing Up at the Table: Teaching Feeding Skills to the Mentally Retarded Child at Home, Part I 140
F-1585X Growing Up at the Table: Teaching Feeding Skills to the Mentally Retarded Child at Home, Part II 140
F-1586X Diapers Away: Toilet Training the Mentally Retarded Child at Home, Part I 140
F-1587X Diapers Away: Toilet Training Mentally Retarded Children in Groups, Part II 140
F-1588-x That They Might Walk Alone 140
F-1593 How To Complete a Certificate of Live Birth 140
Vocational Education Needs Your Ideas 140
The Promise of Vocation Education 140
Parks for People 140
How Non-Profit Groups Can Sponsor Housing for Low-Income Tenants 140
Hope For Hough 140
The Development of a Postage Stamp 140
SN-130 Vertical Welds-Steel 141
SN-184 Metal Finishing 141
SN-649 Tuning-Radio 141
SN-1540-AA Capacitance 141
SN-1540-AB Inductance 141
SN-1540-AC RCL-Resistance 141
SN-1540-AT Current and Electromotive Force 141
SN-1540-AV Series and Parallel Circuits 141
SN-1540-AW Synchro System P-I 141
SN-1540-AX Synchro System P-II 141
SN-2334-M Nomenclature of Ships 141
SN-2335-M Ships Blueprints—Basic 141
SN-2337-N Pipefitting—Making a Wire Template 141
SN-2337-O Pipefitting—Making a Hot Bend 141
SN-2337-P Pipefitting—Fitting and Installing 141
SN-2338-M The Shipfitter—Lifting a Template 141
SN-2338-N The Shipfitter—Simple Foundation 141
SN-2339-N Sheetmetal Work—Vaned Elbow—Layout and Fabrication 141
SN-2339-O Sheetmetal Work-Watertight Cover 141
SN-2339-P Sheetmetal Work—Transition Piece, Square to Round—Layout and Fabrication 141
SN-2340-U Rigging Blocks 141
SN-2341-M Stern Launching-Fore Poppet and Internal Showing Construction 141
SN-2343-N Sailmaking-Hatch Canopy 141
SN-2346-M The Coppersmith-Flaring and Reducing 141
SN-2346-N The Coppersmith-Working out Branches from a Line 141
SN-2348-M Outside Machinist-Reciprocating Pump-Opening for Inspection 141
SN-2348-N Outside Machinist-Reconditioning a Cylinder with a Portable Boring Bar 141
OE 1-fs The Steel Rule 141
OE 2-fs The Micrometer 141
OE 3-fs Fixed Gages 141
OE 4-fs Verniers 141
OE 5-fs Height Gages and Test Indicators 141
OE 6-fs Rough Turning Between Centers 141
OE 7-fs Turning Work of Two Diameters 141
OE 8-fs Cutting a Taper with the Component Rest and with a Taper Attachment 141
OE 9-fs Drilling, Boring, and Reaming Work Held in Chuck 141
OE 10-fs Cutting an External National Fine Thread 141
OE 11-fs The Milling Machine 141
OE 12-fs Cutting Keyways 141
OE 13-fs Straddle and Surface Milling To Close Tolerances 141
OE 14-fs Straddle Milling 141
OE 15-fs Plain Indexing and Cutting a Spur Gear 142
OE 16-fs Rough-Facing, Turning and Drilling 142
OE 17-fs Rough-Facing, Boring, and Turning a Shoulder 142
OE 18-fs Facing, Turning, Boring, Grooving, and Chamfering 142
OE 19-fs Cutting a Keyway on End of a Finished Shaft 142
OE 20-fs Machining a Cast Iron Rectangular Block 142
OE 21-fs Machining a Tool Steel V Block 142
OE 22-fs Drilling and Tapping Cast Steel 142
OE 23-fs Drilling to a Layout and Spot-Facing Cast Iron 142
OE 34-fs Cutting Threads with Taps and Dies 142
OE 35-fs Scraping Flat Surfaces 142
OE 36-fs Fitting and Scraping Small Bearings 142
OE 37-fs Reaming with Straight Hand Reamers 142
OE 38-fs Reaming with Taper Hand Reamers 142
OE 39-fs Centering Small Stock 142
OE 40-fs Laying Out Small Castings 142
OE 41-fs Fundamentals of Filing 142
OE 42-fs Fundamentals of Side Cutting Tools 142
OE 43-fs Fundamentals of End Cutting Tools 142
OE 44-fs Turning a Taper with the Tailstock Set Over 142
OE 45-fs Cutting an External Acme Thread 142
OE 46-fs Drilling a Hole in a Pin 142
OE 47-fs Locating Holes, Drilling and Tapping in Cast Iron 142
OE 48-fs Countersinking, Counterboring, and Spotfacing 142
OE 49-fs Precision Gage Blocks 142
OE 50-fs The Bevel Protractor 142
OE 51-fs Visualizing an Object 142
OE 52-fs Reading a Three-View Drawing 142
OE 53-fs Principal Dimensions, Reference Surfaces and Tolerances 142
OE 54-fs Sectional Views and Projections, Finish Marks 142
OE 55-fs Reading a Drawing of a Valve Bonnet 142
OE 56-fs Cutting an Internal Acme Thread 142
OE 57-fs Cutting an Internal Taper Pipe Thread 142
OE 58-fs Turning Work Held on a Fixture 142
OE 59-fs Boring to Close Tolerances 142
OE 60-fs Machining Work Held in Chuck: Use of Reference Surfaces 142
OE 61-fs Turning Work Held on a Mandrel 142
OE 62-fs Using a Steady Rest 142
OE 63-fs Using a Follower Rest 142
OE 64-fs Using a Boring Bar Between Centers: Work Held on Carriage 142
OE 65-fs Using a Steady Rest When Boring 142
OE 66-fs Planing a Flat Surface 142
OE 67-fs Planing a Dovetail Slide 142
OE 68-fs The Lathe 142

OE 69-fs The Milling Machine 142
OE 70-fs The Shaper 142
OE 71-fs The Drill Press 142
OE 72-fs Using a Shell End Mill 142
OE 73-fs Cutting a Dovetail Taper Slide 142
OE 74-fs Cutting a Round End Keyway 142
OE 75-fs Milling a Helical Groove 142
OE 76-fs Milling a Circular T-slot 142
OE 77-fs Grinding a Straight Hole 143
OE 78-fs Grinding a Deep Hole 143
OE 79-fs Grinding and Facing a Blind Hole 143
OE 80-fs Grinding a Plain Pin; Part I: The Grinding Wheel 143
OE 81-fs Grinding a Plain Pin; Part II: Grinding Operations 143
OE 82-fs Grinding a Slender Shaft with Back Rest 143
OE 83-fs Plunge Cut Grinding 143
OE 84-fs Grinding a Taper 143
OE 85-fs Thrufeed Grinding a Straight Pin: Part I 143
OE 86-fs Thrufeed Grinding a Straight Pin: Part II 143
OE 87-fs Infeed Grinding a Shouldered Work 143
OE 88-fs Infeed Grinding a Shaft of Two Diameters 143
OE 89-fs Endfeed Grinding a Tapered Pin 143
OE 90-fs Sharpening a Side Milling Cutter 143
OE 91-fs Sharpening a Plain Helical Milling Cutter 143
OE 92-fs Sharpening a Shell End Mill 143
OE 93-fs Sharpening a Form Relieved Cutter 143
OE 94-fs Sharpening an Angular Cutter 143
OE 129-fs Filing Template Metal 143
OE 130-fs Blanking Sheet Metal on the Squaring Shear 143
OE 131-fs Blanking Sheet Metal with Hand Snips 143
OE 132-fs Blanking with the Swing Arm Router 143
OE 133-fs Forming with Rubber on the Hydraulic Press 143
OE 134-fs Forming on a Hand Operated Brake 143
OE 135-fs Finish Forming by Hand 143
OE 136-fs Assembling in a Jig: Fitting and Lining Up 143
OE 137-fs Assembling in a Jig: Drilling and Riveting 143
OE 138-fs Drilling with Portable Drill Motors 143
OE 139-fs Dimpling and Countersinking 143
OE 140-fs Driving and Bucking Rivets 143
OE 141-fs Removing Defective Rivets 143
OE 142-fs Tube Bending by Hand 143
OE 143-fs Making a Five Tuck Splice 143
OE 144-fs Making a Wrapped and Soldered Splice 143
OE 145-fs Inspection of Sheet Metal Parts 143
OE 146-fs Inspection of Minor Assemblies 143
OE 147-fs Inspection of Plumbing and Piping 143
OE 149-fs Hardness Testing: Rockwell 143
OE 170-fs Elements of Hardening 143
OE 171-fs Elements of Tempering, Normalizing, and Annealing 143
OE 172-fs Elements of Surface Hardening 143
OE 173-fs X-ray Inspection 143
OE 174-fs Measurement with Light Waves 143
OE 175-fs The Electron: An Introduction 143
OE 176-fs The Diode: Principles and Applications 144
OE 177-fs The Triode: Amplification 144
OE 179-fs The Slide Rule: The "C" and "D" Scales 144
OE 180-fs Rough Grinding 144
OE 181-fs Rough Grinding by Pin-Bar 144
OE 182-fs Pitch Buttoning and Blocking 144
OE 183-fs Fine Grinding 144
OE 184-fs Polishing 144
OE 185-fs Centering, Edge Grinding, and Beveling 144
OE 186-fs Manual Cutting to a Line: Freehand 144
OE 187-fs Manual Cutting a Bevel: Freehand 144
OE 187-fs Manual Cutting a Shape: Freehand Guided 144
OE 189-fs The Guided Bend Test 144
OE 190-fs Oxy-Acetylene Welding: Light Metal 144
OE 191-fs Forging with a Hand Forge 144
OE 192-fs Forge Welding 144
OE 193-fs Sharpening and Tempering Farm Tools 144
OE 194-fs Reconditioning a Mower, Part I: Cutter Bar 144
OE 195-fs Reconditioning a Mower, Part II: Drive System 144
OE 196-fs Reconditioning a Two-Bottom Tractor Plow 144
OE 197-fs Reconditioning a Grain Drill 144
OE 207-fs Milling a Template 144
OE 208-fs Cutting a Short Rack 144
OE 209-fs Boring Holes with Offset Boring Head 144
OE 210-fs Milling a Helical Cutter 144
OE 211-fs Cutting Teeth on a Worm Gear 144
OE 212-fs The Turret Lathe: An Introduction 144
OE 213-fs Chuck Work, Part I: Setting Up Hexagon Turret Tools 144
OE 214-fs Chuck Work, Part II: Setting Up Tools for Combined Cuts 144
OE 215-fs Setting Up and Machining Bar Stock 144
OE 216-fs Bar Work: Magnesium; Part I: Setting Up Bar Mechanism and Roller Turner 144
OE 217-fs Bar Work: Magnesium; Part II: Setting Up Multiple Roller Turner and Turning a Taper 144
OE 218-fs Bar Work: Magnesium; Part III: Necking and Threading by Use of Attachment and by Die Head 144
OE 220-fs Grinding a Parallel Bar; Part I: Setting Up the Machine 144
OE 221-fs Grinding a Parallel Bar; Part II: Grinding Operations 144
OE 222-fs Grinding a Template 144
OE 223-fs Grinding a V Block 144
OE 224-fs Grinding Thin Discs 144
OE 225-fs Setup for Face Milling with a Fixture 144
OE 226-fs Face Milling with a Fixture 144
OE 227-fs Contour Face Milling 144
OE 228-fs Setup for Rough Line-Boring 144
OE 229-fs Rough Line-Boring 144
OE 230-fs Drilling, Tapping, Stub-Boring, and Reaming 144
OE 231-fs Hobbing a Spur Gear, Part I: Setting Up the Change Gears 144
OE 232-fs Hobbing a Spur Gear, Part II: Setting Up and Hobbing the Work 145
OE 233-fs Hobbing a Square Tooth Spline Shaft 145
OE 234-fs Hobbing a Worm Gear: Infeed Method 145
OE 235-fs Hobbing a Helical Gear, Two Cuts; Nondifferential Method 145
OE 236-fs Broaching an Internal Keyway 145
OE 237-fs Single Ram Vertical Surface Broaching 145
OE 238-fs Double Ram Vertical Surface Broaching 145
OE 239-fs Sawing an Internal Irregular Shape 145
OE 240-fs Filing an Internal Irregular Shape 145
OE 241-fs Brazing Carbide Tools 145
OE 242-fs Grinding Single-Point Carbide Tools 145
OE 243-fs Grinding Multiple-Point Carbide Tools 145
OE 244-fs Cutting with Carbide Tools; Part I: Single Point 145
OE 245-fs Cutting with Carbide Tools; Part II: Milling Cutters 145
OE 246-fs Gage Blocks and Accessories 145
OE 289-fs Using a Portable Spray Gun 145
OE 290-fs Forming on Rotary Machines 145
OE 291-fs Forming with a Drop Hammer 145
OE 292-fs Blanking with Rotary and High Speed Shears 145
OE 293-fs Squeeze Riveting: Stationary and Portable Riveters 145
OE 294-fs Blind Riveting 145
OE 295-fs Spot Welding 145
OE 298-fs Swaging Cable Terminals 145
OE 301-fs Planing Rough Surfaces to Dimensions 145
OE 302-fs Jointing Edges and Ends 90 Degrees to Face 145
OE 303-fs Beveling, Stop Chamfering, and Tapering Square Stock 145
OE 304-fs Face Planing Uneven Surfaces 145
OE 305-fs Jointing an Edge for Gluing: Installing Knives 145
OE 306-fs Ripping and Cross-Cutting 145
OE 307-fs Beveling, Mitering, Rabbeting, and Dadoing 145
OE 308-fs Cutting Tenons and Segments 145
OE 309-fs Sawing with Jig and Changing Band 145
OE 310-fs Sawing a Reverse Curve and a Bevel Reverse Curve 145
OE 311-fs Cutting Cove Molding and a Corebox 145
OE 312-fs Sanding Flat and Irregular Surfaces 145
OE 313-fs Turning a Cylinder Between Centers 145
OE 314-fs Turning Taper Work 145
OE 315-fs Turning Work on a Flat Plate 145
OE 316-fs Turning Work in a Chuck 145
OE 317-fs Face Turning a Collar 145
OE 318-fs Rabbeting and Shaping an Edge on Straight Stock 145
OE 319-fs Shaping after Template and Shaping Curved Edges 145
OE 320-fs Cutting Groves with Circular Saw Blades 145
OE 321-fs Making a One-Piece Flat Pattern 145
OE 322-fs Making a Pattern with a Verticle Core 145
OE 323-fs Making a Pattern with a Horizontal Core 145
OE 324-fs Making a Pattern with a Tail Print 145
OE 325-fs Making a Segmented Pattern 145
OE 326-fs Making a Pattern for a Three-Part Mold 145
OE 327-fs Making a Pattern for a Flanged Pipe Elbow 145
OE 328-fs Making a Matchboard Pattern 145
OE 329-fs Making a Core Box for a Vertical Core 146
OE 330-fs Making a Core Box for a Flanged Pipe Elbow 146
OE 331-fs Making a Pattern Using a Green and a Dry Sand Core 146
OE 332-fs Making a Pattern Requiring a Cover Core 146
OE 333-fs Making a Pattern Requiring Box Construction 146
OE 334-fs Making a Core Box for a Machine Base 146
OE 335-fs Making a Pattern Requiring Segmental Construction 146
OE 336-fs Redesigning a Pattern for Production Purposes 146
OE 337-fs Designing a Pattern for a Water-Cooled Motor Block 146
OE 338-fs Designing Core Boxes for a Water-Cooled Motor Block 146
OE 339-fs Making Pattern, Core Boxes, and Assembling Cores for a Water-Cooled Motor Block 146
OE 340-fs Making a Pattern for a Machine Molded Steel Globe and Angle Valve 146
OE 344-fs Heat Treatment of Aluminum; P-I 146
OE 345-fs Heat Treatment of Aluminum; P-II 146
OE 348-fs Tension Testing 146
OE 350-fs Making a Core Box for a Tail Print 146
OE 353-fs Principles of Gas-Filled Tubes 146
OE 354-fs The Slide Rule: Proportion, Percentage, Squares and Square Roots 146
OE 355-fs Principles of Lubrication 146
OE 360-fs Principles of Refrigeration 146
OE 361-fs An Introduction to Vectors: Coplaner Concurrent Forces 146
OE 362-fs Principle of Moments 146
OE 363-fs Principles of Gearing: An Introduction 146
OE 365-fs Principles of Dry Friction 146
OE 367-fs Flue Gas Analysis (Orsat Apparatus) 146
OE 369-fs Joining Solid Conductors 146
OE 371-fs Soldering Lugs and Splicing Stranded Conductors 146
OE 372-fs Wire Sizes and Voltage Drop 146
OE 373-fs Roughing-in Nonmetalic Sheathed Cable 146
OE 374-fs Three-Wire Service Entrance 146
OE 375-fs Electrical Circuit Faults 146
OE 376-fs Porcelain Protected Surface Wiring 146
OE 377-fs Cable Surface Wiring 146
OE 378-fs Preparing Old Buildings for Wiring 146
OE 379-fs Wiring Old Buildings with Armored Cable 146
OE 380-fs Installing Surface Metal Raceway 146
OE 381-fs Installing Conduit 146
OE 382-fs Power Bending Conduit 146
OE 383-fs Single-Phase and Polyphase Circuits 146
OE 384-fs Rotating Magnetic Fields 146
OE 385-fs Squirrel-Cage Rotor Principles 146
OE 386-fs Split-Phase Motor Principles 146
OE 387-fs Repulsion Motor Principles 146
OE 388-fs Direct Current Controllers 146
OE 389-fs Across-the-Line Starters 146
OE 390-fs Reduced Voltage Starters 146
OE 391-fs Wound Rotor Controllers 146
OE 392-fs D.C. Motor, Part I: Mechanical Overhaul 146
OE 393-fs D.C. Motor, Part II: Rewinding 146
OE 394-fs Split-Phase Motor: Rewinding 146
OE 395-fs Three-Phase Motor, Part I: Preparing to Rewind 146
OE 396-fs Three-Phase Motor, Part II: Rewinding 147

OE 397-fs Repulsion-Induction Motor: General Overhaul 147
OE 403-fs Bathing the Patient: Home Care 147
OE 404-fs Feeding the Patient 147
OE 406-fs The Vital Signs and Their Interrelation: Body Temperature, Pulse, Respiration, Blood Pressure 147
OE 408-fs Therapeutic Uses of Heat and Cold; Part I: Administering Hot Applications 147
OE 409-fs Therapeutic Uses of Heat and Cold; Part II: Administering Cold Applications 147
OE 412-fs Care of the Newborn Baby: The Nurse's Role in Instructing the Parents 147
OE 417-fs Care of the Patient with Diabetes Mellitus: Uncomplicated 147
OE 418-fs Care of the Patient with Diabetes Mellitus: Complicated 147
OE 419-fs Care of the Cardiac Patient 147
OE 422-fs Teaching Crutch Walking 147
OE 423-fs Molding with a Loose Pattern 147
OE 424-fs Making a Simple Core 147
OE 425-fs Molding Part Having a Vertical Core 147
OE 426-fs Molding with a Split Pattern 147
OE 427-fs Molding with a Gated Pattern 147
OE 428-fs Molding with a Loose Pattern: Floor 147
OE 429-fs Molding Part with Deep Green Sand Core 147
OE 430-fs Molding a Valve Body 147
OE 431-fs Molding a Horizontal Cored Part 147
OE 432-fs Molding with a Three Part Flask 147
OE 433-fs Molding on a Jolt Squeeze Machine 147
OE 434-fs Molding on a Jolt Roll-Over Pattern Draw Machine 147
OE 436-fs Preparing a Cupola for Charging 147
OE 437-fs Charging and Operating a Cupola 147
OE 438-fs Checking the System; Part I: General Procedure 147
OE 439-fs Checking the System; Part II: Trouble Shooting 147
OE 440-fs Locating and Repairing Leaks 147
OE 441-fs Adding or Removing Refrigerant 147
OE 442-fs Removing and Installing a Compressor or Condenser 147
OE 443-fs Removing and Installing a Cooling Unit 147
OE 444-fs Adjusting and Checking the Expansion Valve 147
OE 445-fs Checking and Replacing a Float Valve 147
OE 446-fs Checking the Electrical System 147
OE 447-fs Quieting a Noisy Refrigerator 147
OE 448-fs Adjusting and Repairing the Thermo Expansion Valve 147
OE 449-fs Adjusting Pressure Actuated Temperature Control Devices 147
OE 450-fs Adjusting Commercial Thermostatic Controls 147
OE 451-fs Servicing Water Cooled Condensors 147
OE 452-fs Making and Repairing Tubing Connections 147
OE 453-fs Reconditioning a Cultivator 147
OE 454-fs Care of a Tractor 147
OE 455-fs Canning Beef 147
OE 456-fs Cutting and Boning a Forequarter of Beef 147
OE 457-fs Cutting and Boning a Hindquarter of Beef 147
OE 458-fs Horseshoeing 147
OE 459-fs Handling Livestock for Market 147
OE 461-fs Introduction to Preventive Maintenance 147
OE 462-fs The Battery, Ignition, and Electrical System 147
OE 463-fs The Engine Assembly 148
OE 464-fs The Cooling System and Fuel System 148
OE 465-fs Engine Tests and Tune Up 148
OE 466-fs Origin and Synthesis of Plastics Materials 148
OE 467-fs Methods of Processing Plastics Materials 148
OE 468-fs Compression Molding; Part I: Preparing the Charge and Loading the Mold 148
OE 469-fs Compression Molding; Part II: Molding a Simple Part 148
OE 470-fs Transfer Molding: Molding a Part with Inserts 148
OE 471-fs Semiautomatic and Hand Molding of Intricate Parts 148
OE 472-fs Injection Molding; Part I: Setting Up the Press and Molding a Part 148
OE 473-fs Injection Molding; Part II: Cleaning and Servicing the Press 148
OE 474-fs Finishing Molded Parts 148
OE 475-fs Machining Laminated Plastics 148
OE 479-fs Hand Soldering 148
OE 480-fs High Frequency Soldering 148
OE 482-fs The Clutch and Hand Brake 148
OE 483-fs The Hydraulic Brake System 148
OE 484-fs Steering, Wheels, Front and Rear Axles 148
OE 485-fs Transmission, Drive Shaft, and Differential 148
OE 486-fs Know Your Car 148
OE 487-fs Your Driving Habits 148
OE 488-fs Keeping Your Car Fit 148
OE 489-fs The Periodic Check-Up 148
OE 490-fs Trouble Shooting Your Car 148
OE 491-fs The Operator and His Job 148
OE 493-fs The Operator and Safety 148
OE 494-fs Bus Care and Maintenance 148
OE 495-fs Passengers, Driving Hazards, Safety 148